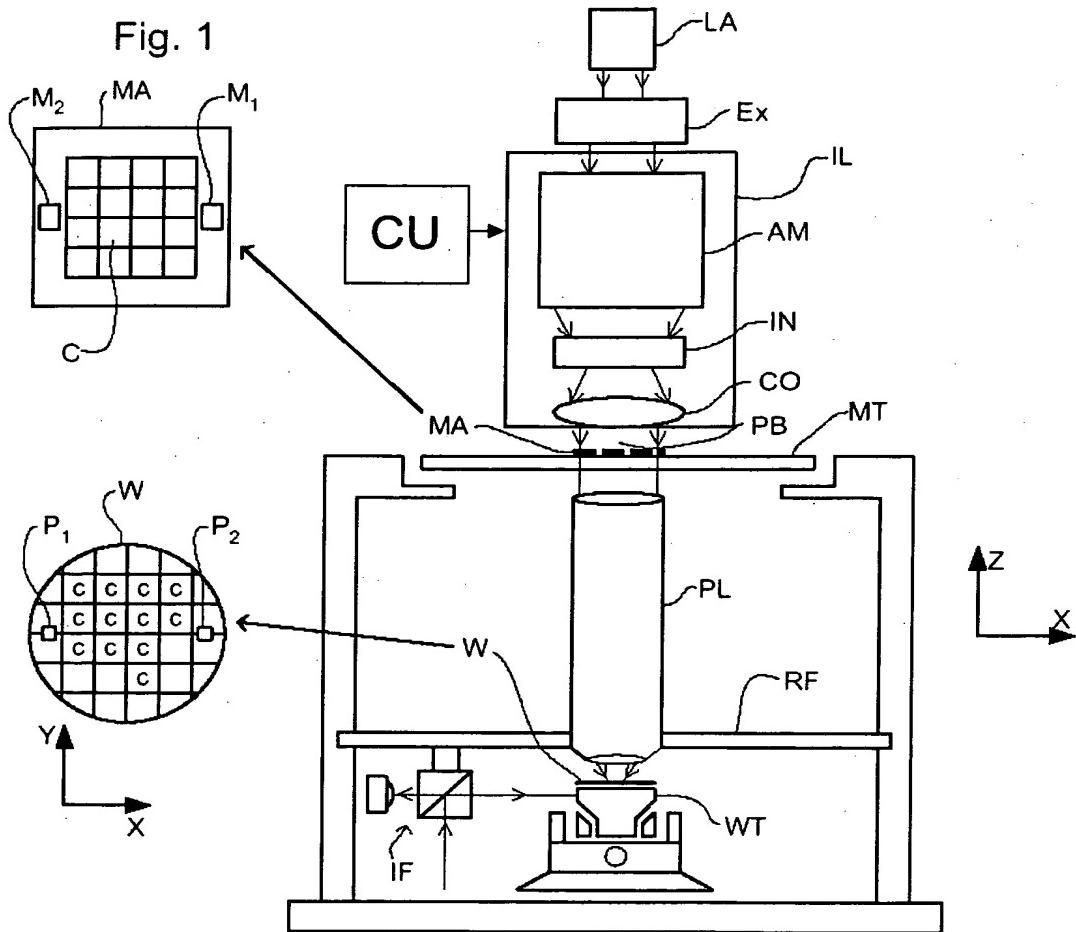




Fig. 1



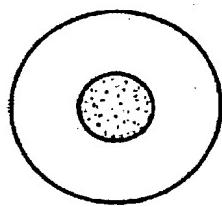


FIG. 2

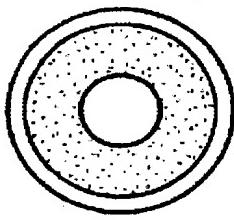


FIG. 3

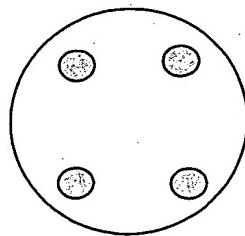


FIG. 4

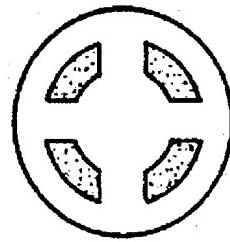


FIG. 5

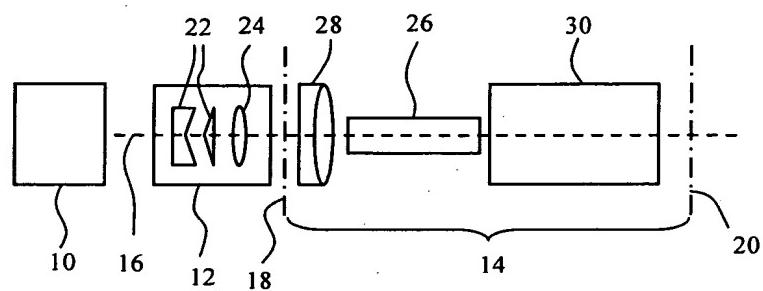


FIG. 6

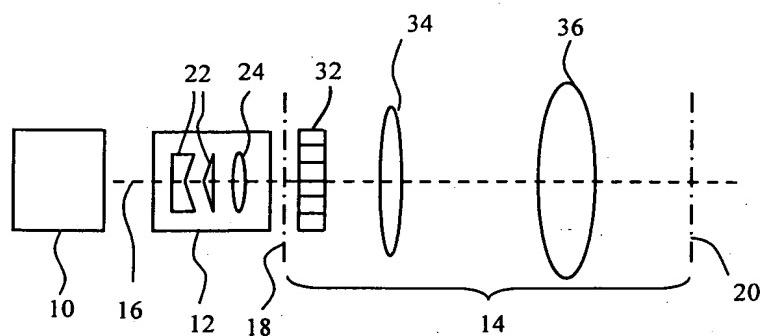


FIG. 7

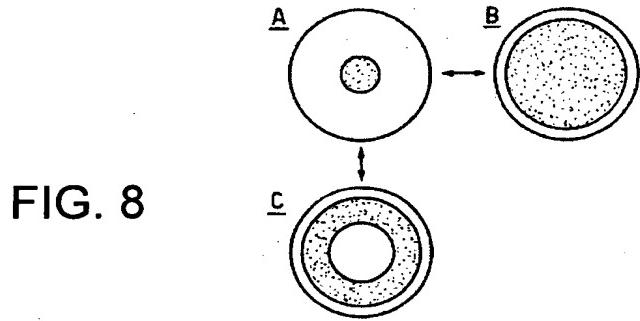


FIG. 8

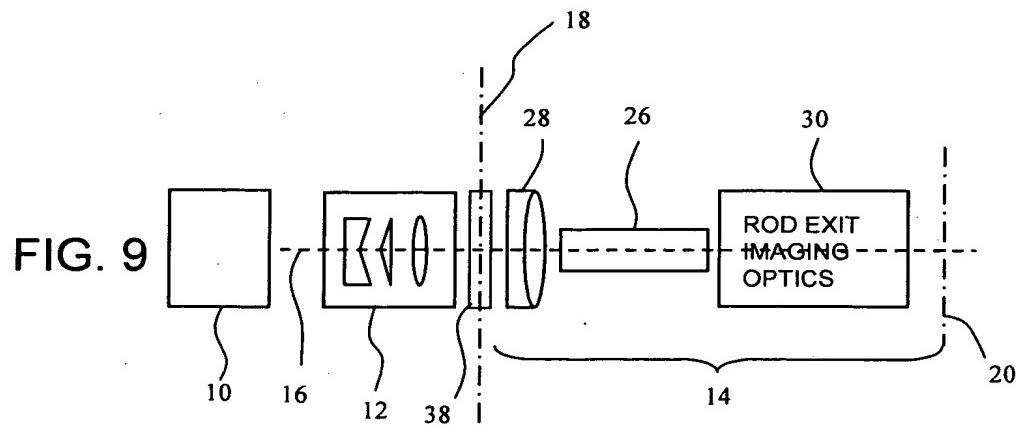


FIG. 9

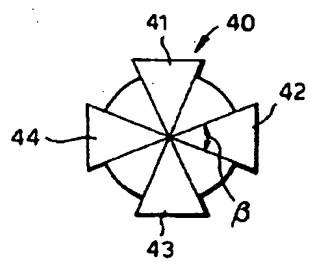


FIG. 10a

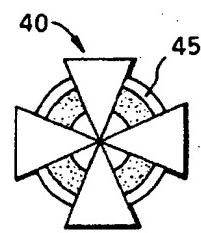


FIG. 10b

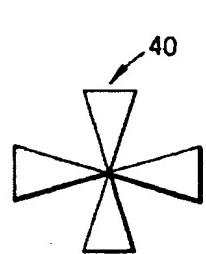


FIG. 11

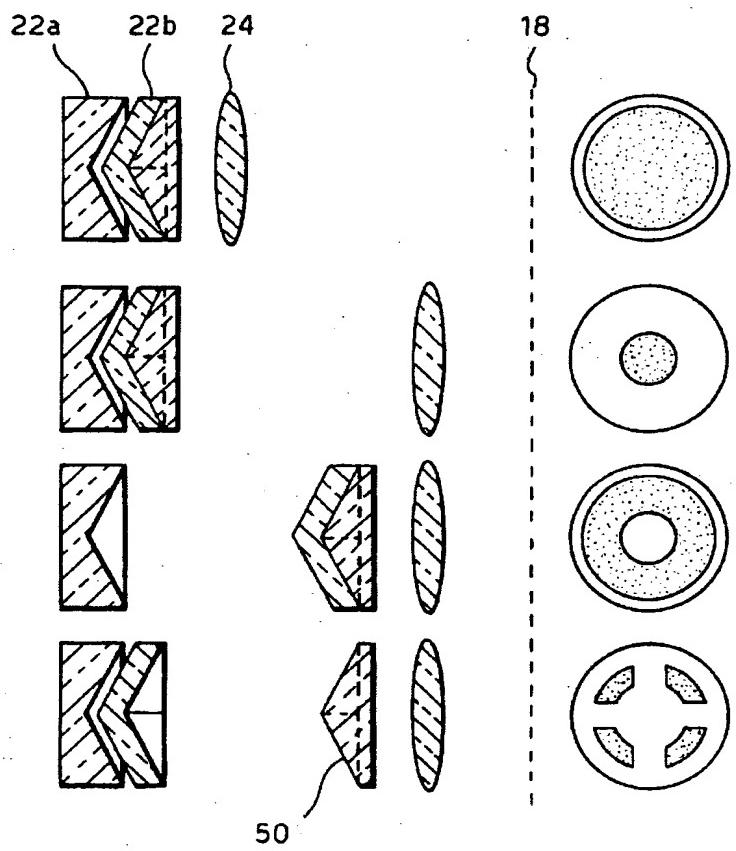


FIG. 12

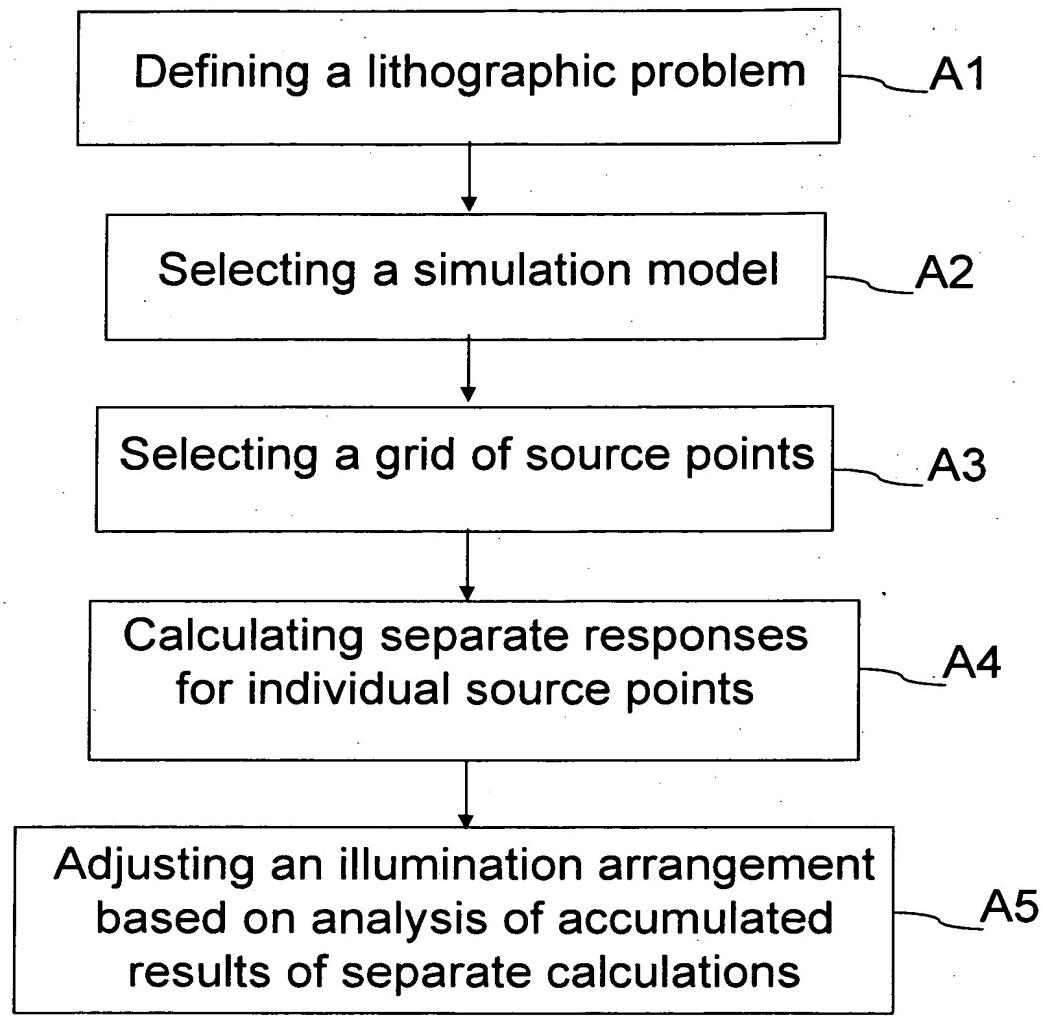
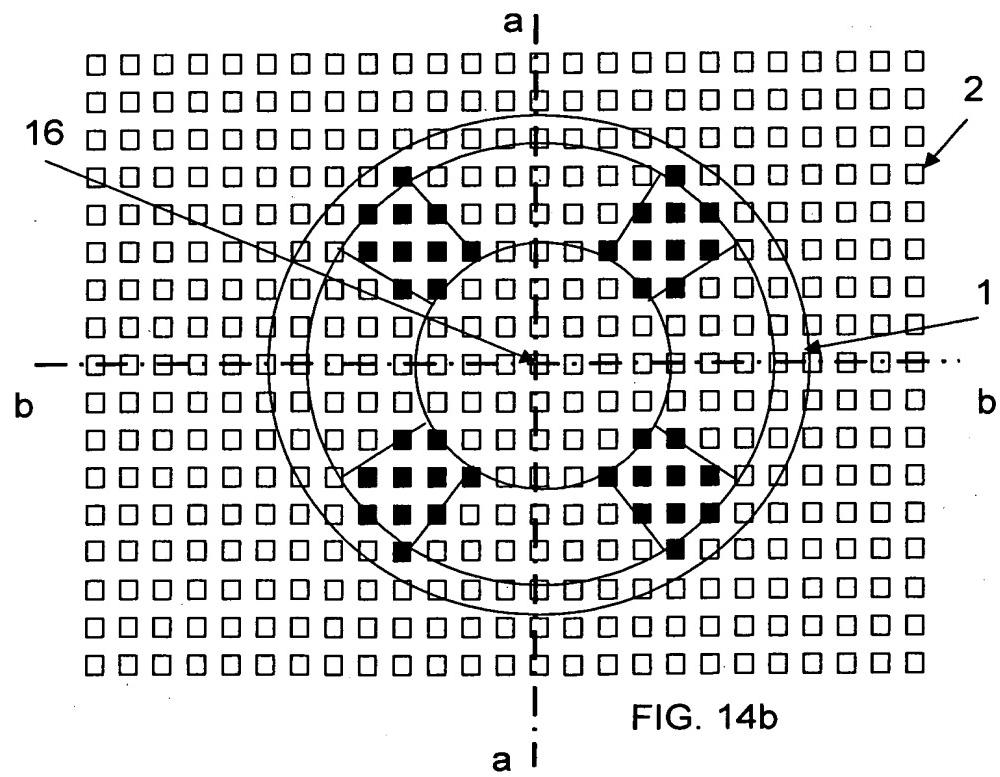
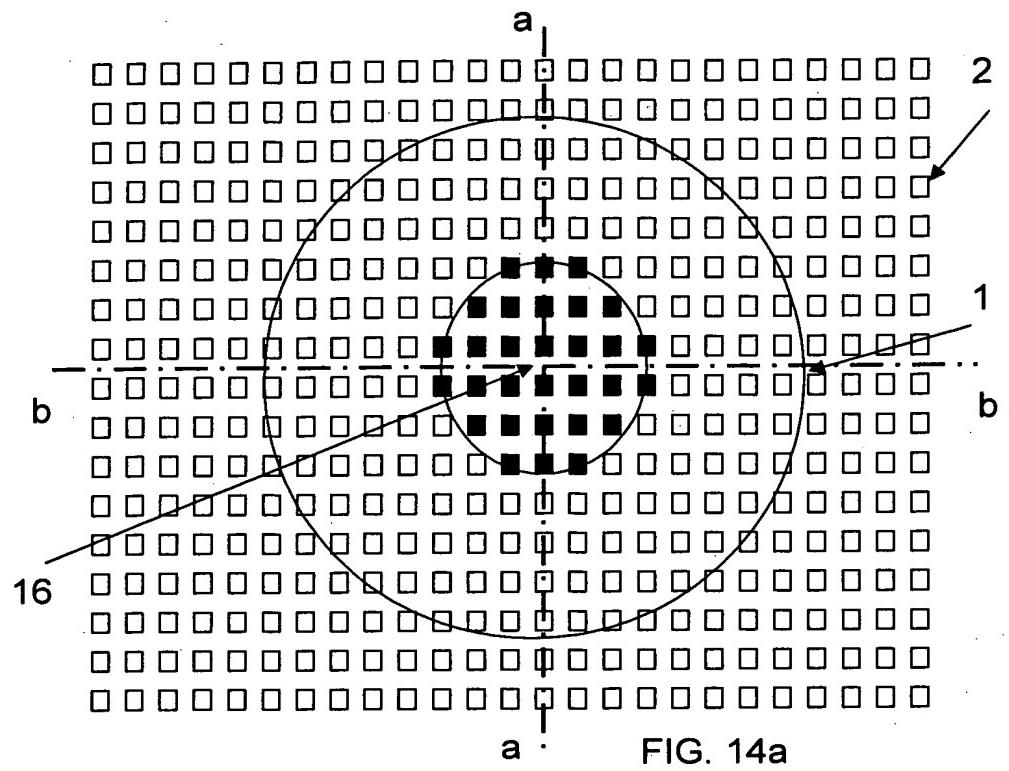


FIG. 13



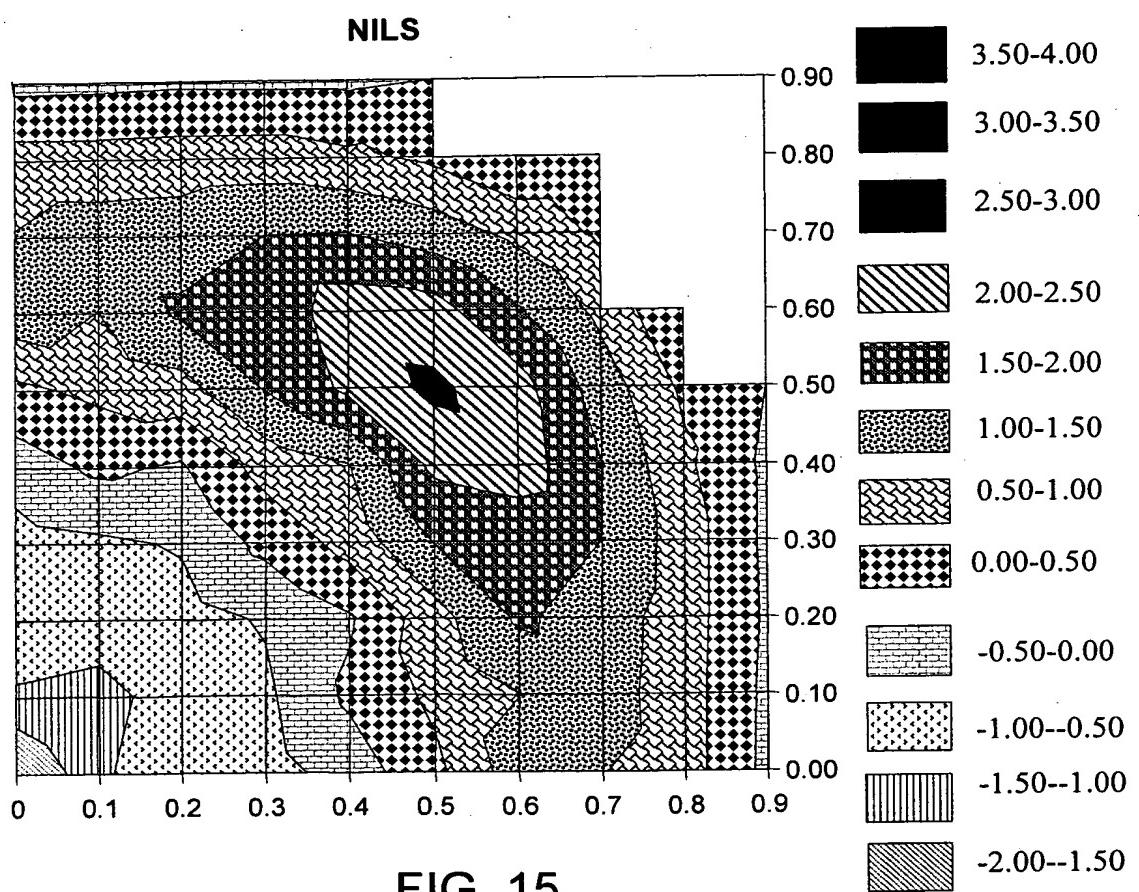


FIG. 15

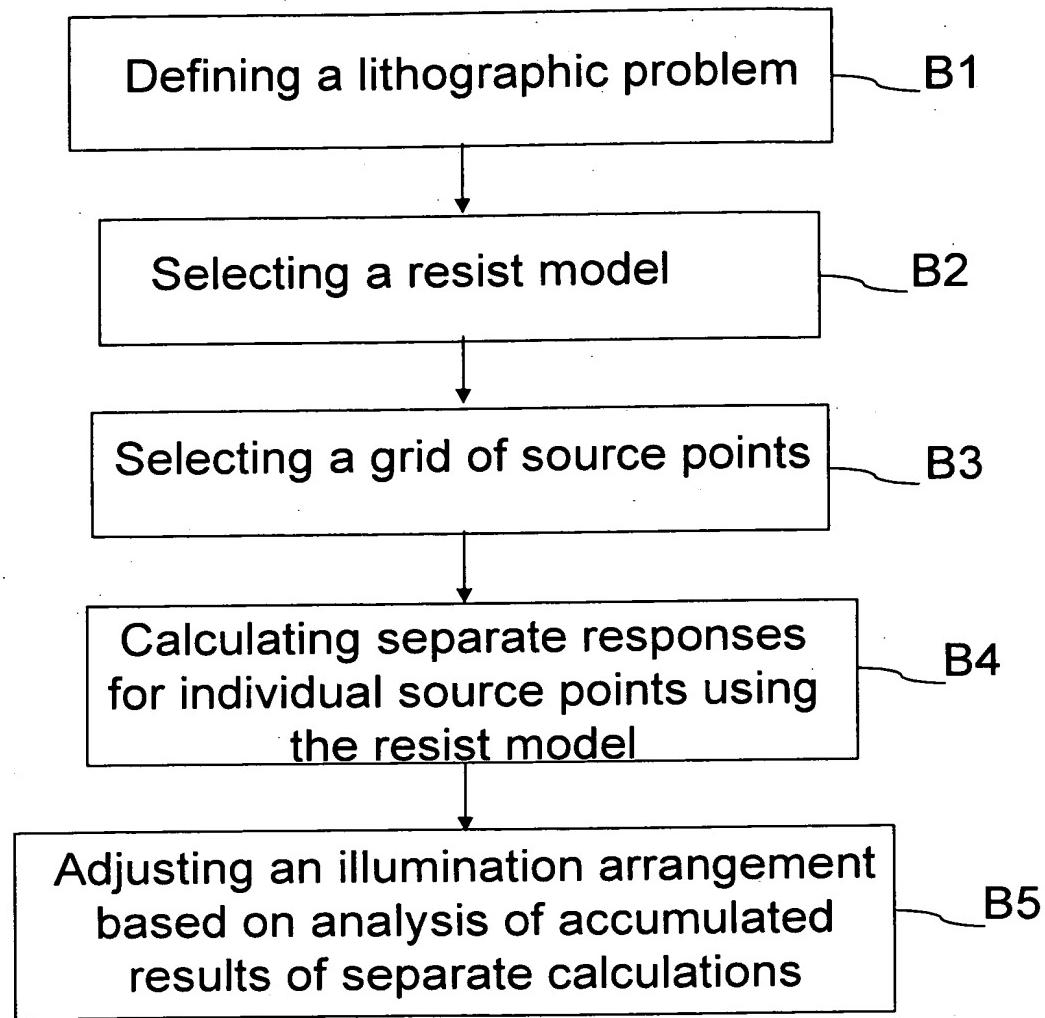


FIG. 16

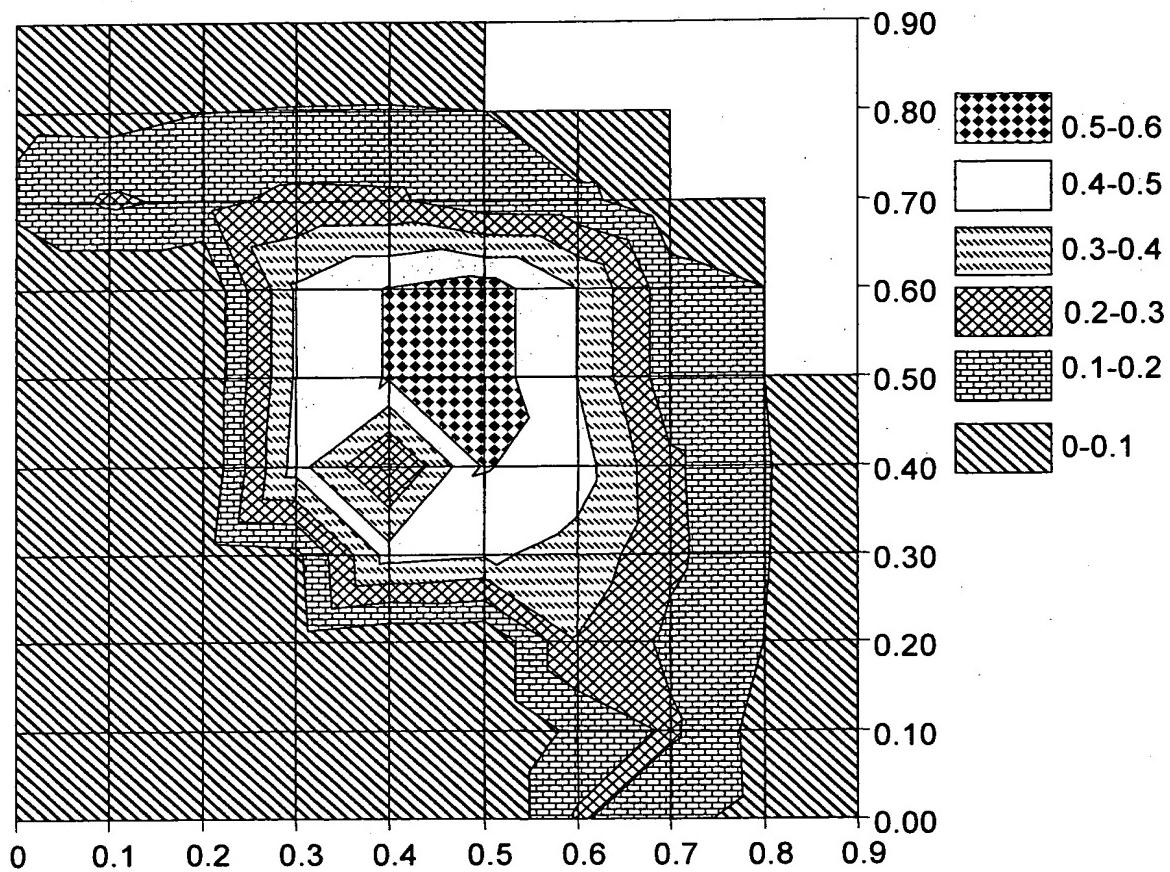


FIG. 17

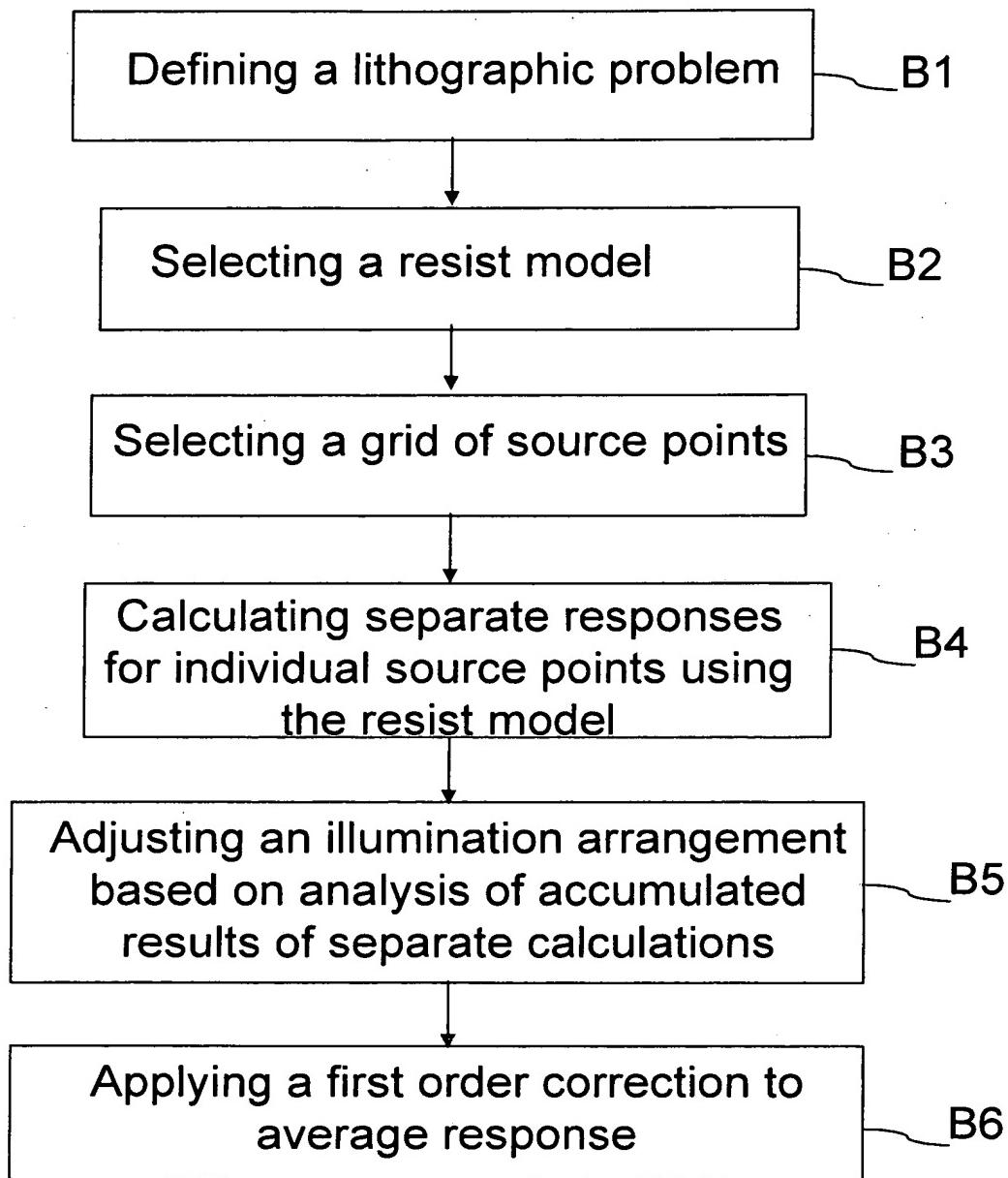


FIG. 18

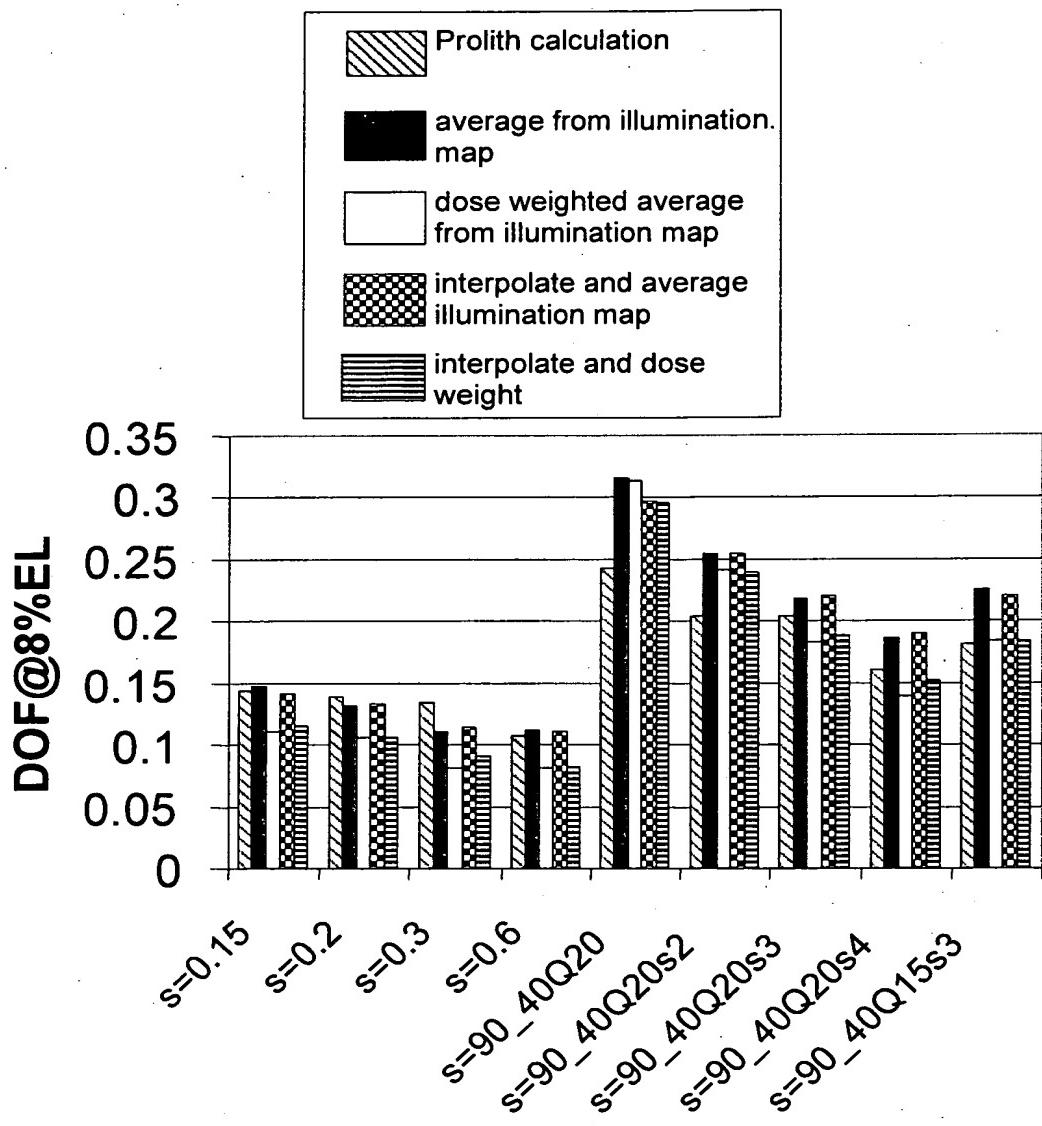
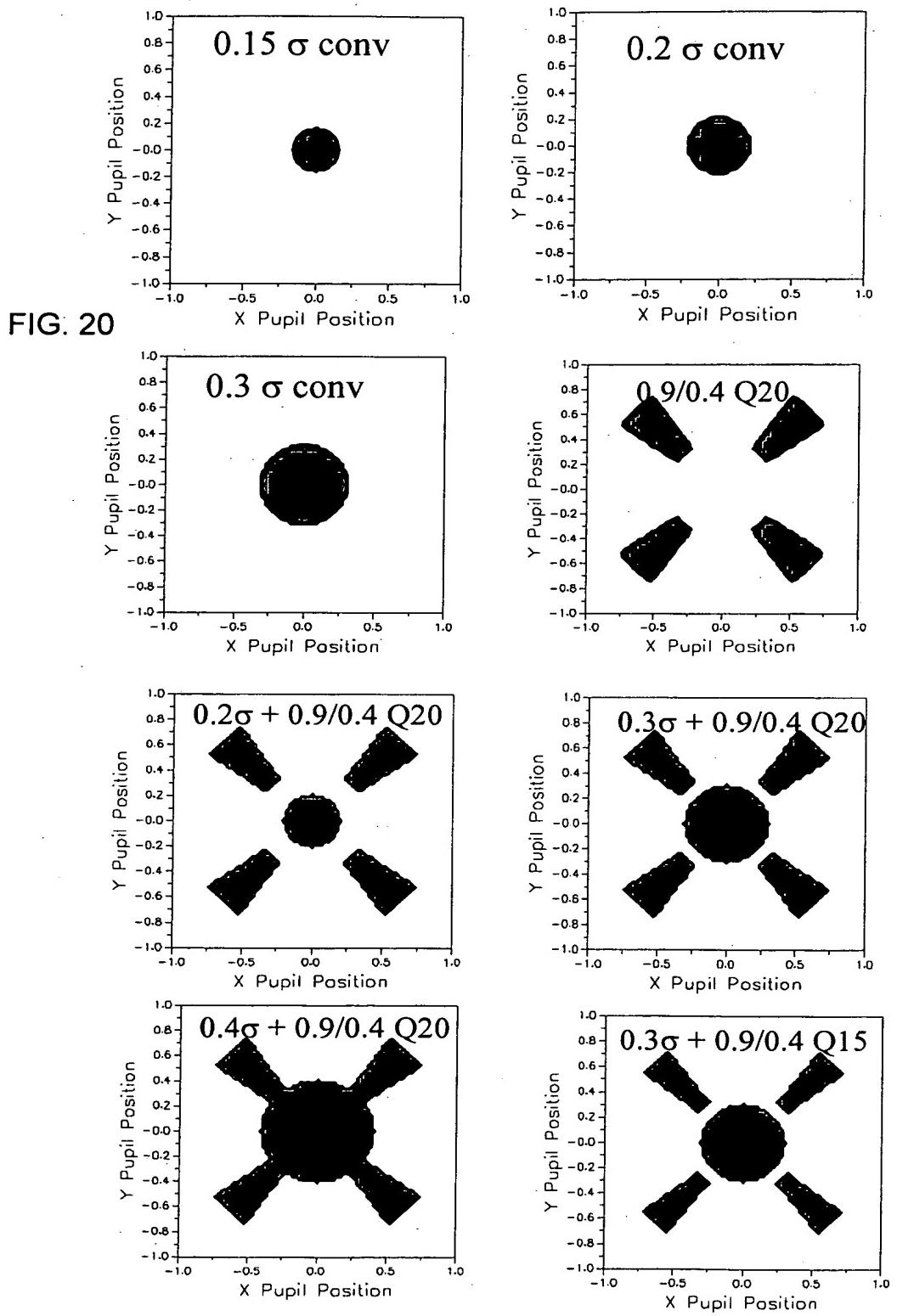


FIG. 19



trial illuminator	prediction based on weighted and interpolated source measurements	Prolith simulation with this illuminator
0.85_0.55Q30	0.293u	0.23u
0.75_0.55Q20	0.416	0.41
0.80_0.60Q20	0.383	0.355
0.80_0.60annular	0.110	0.10
0.75_0.55annular	0.118	0.105

FIG. 21

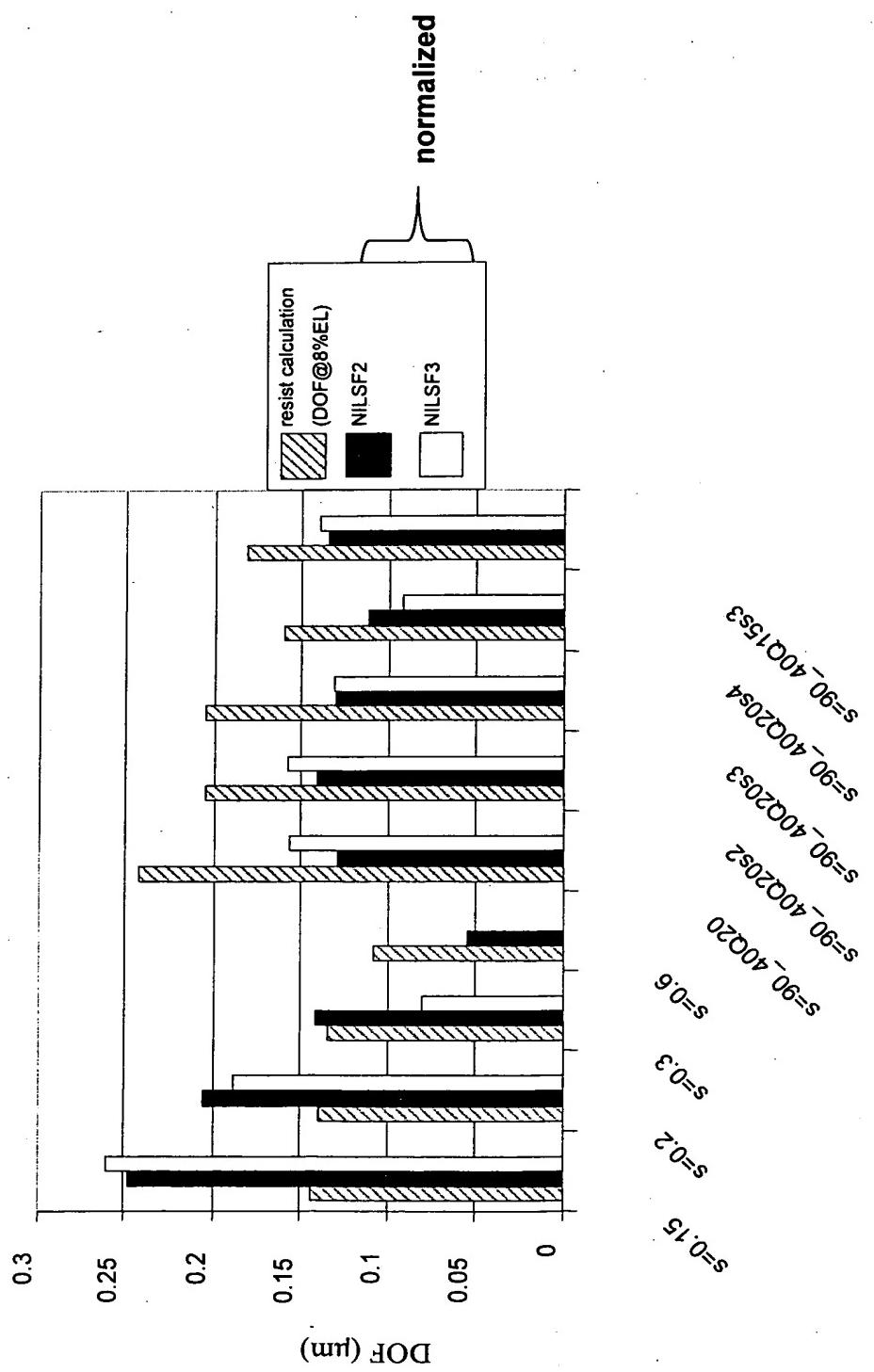


FIG. 22

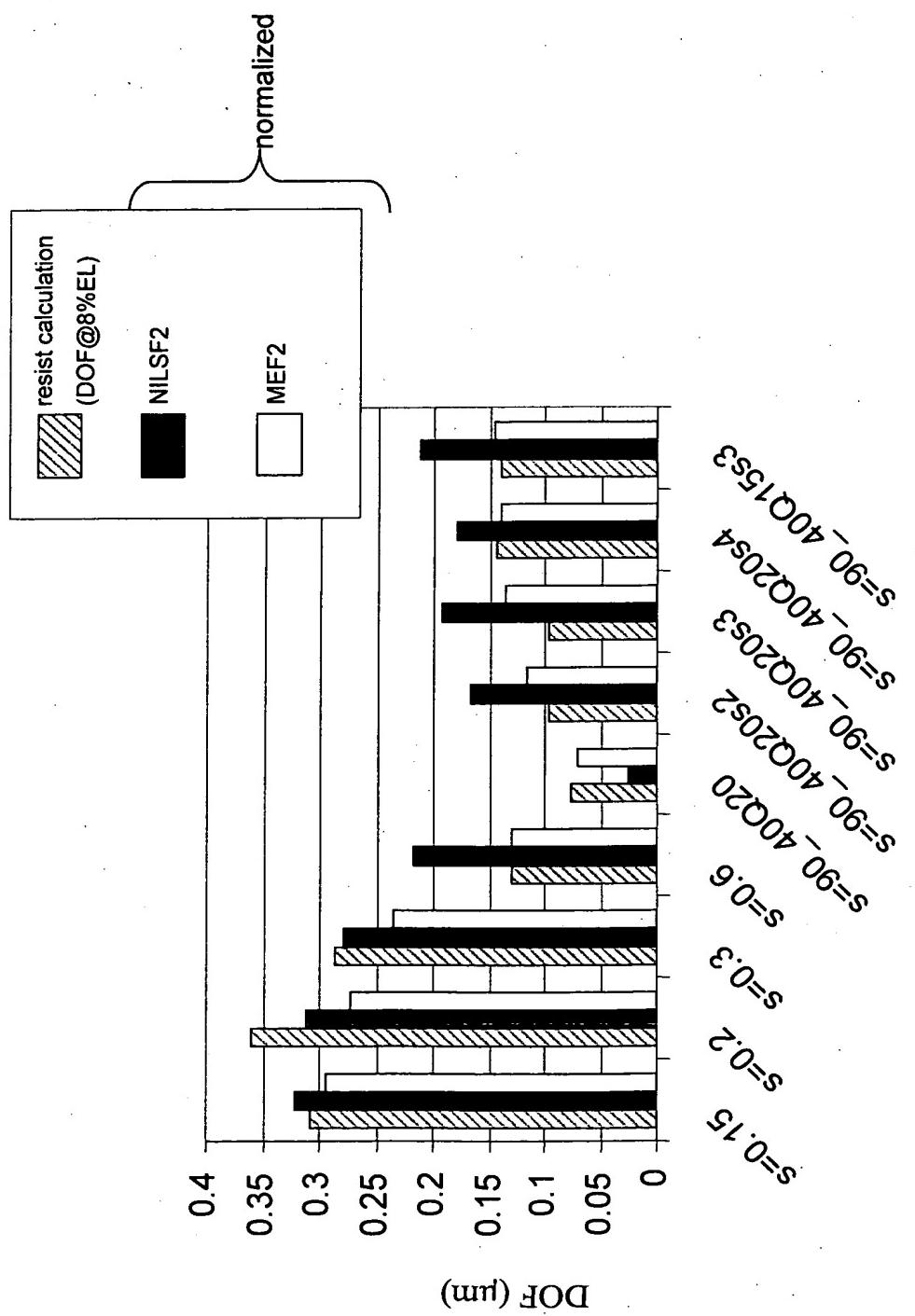


FIG. 23

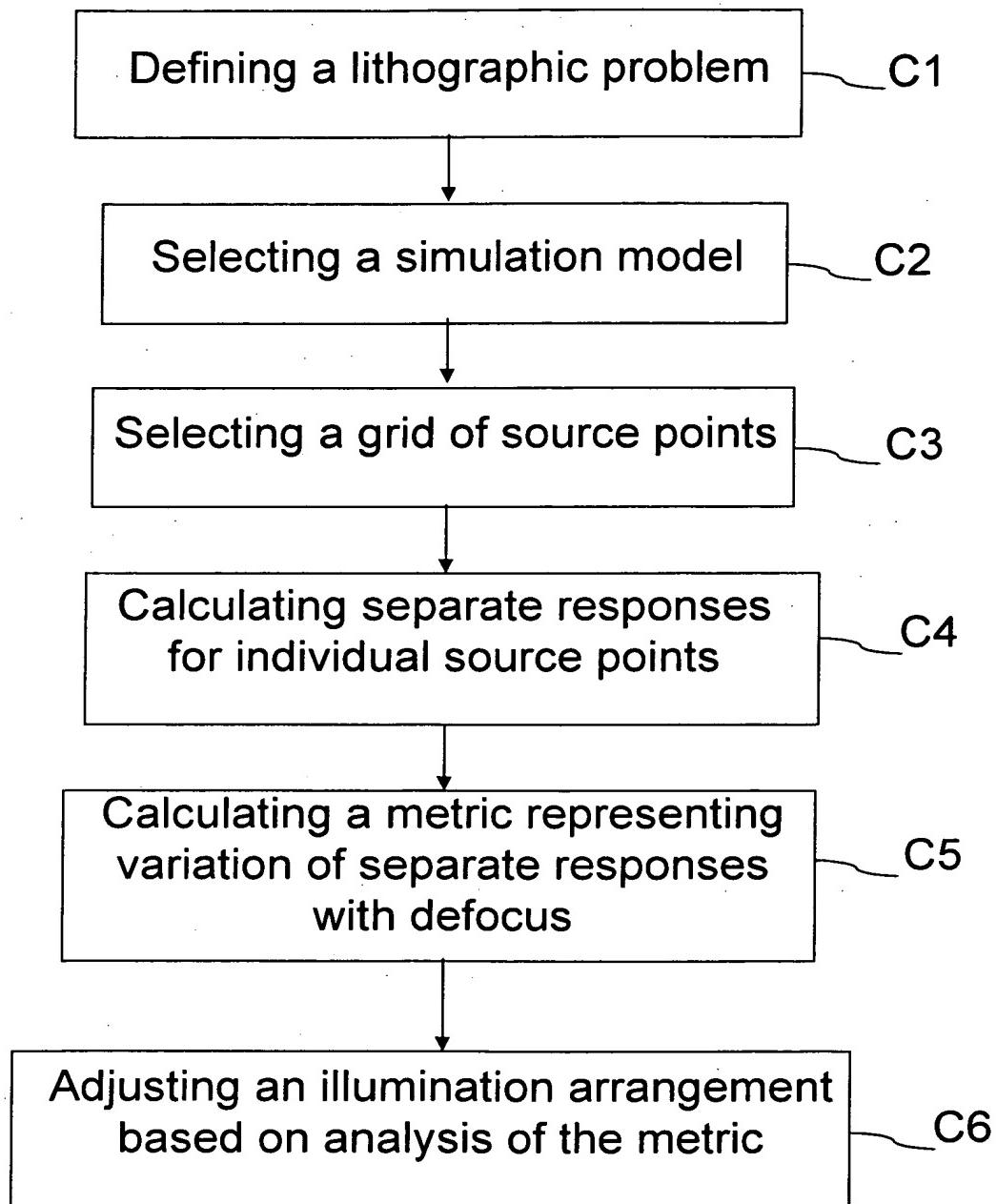


FIG. 24

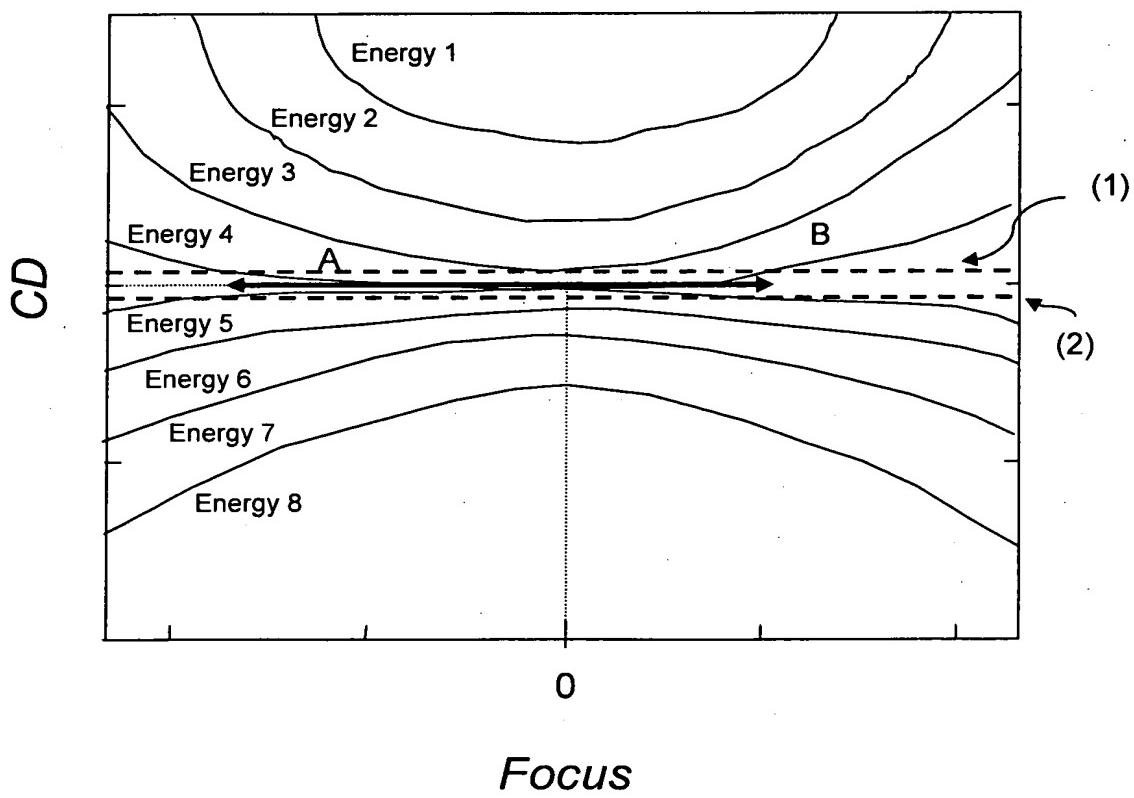


FIG. 25

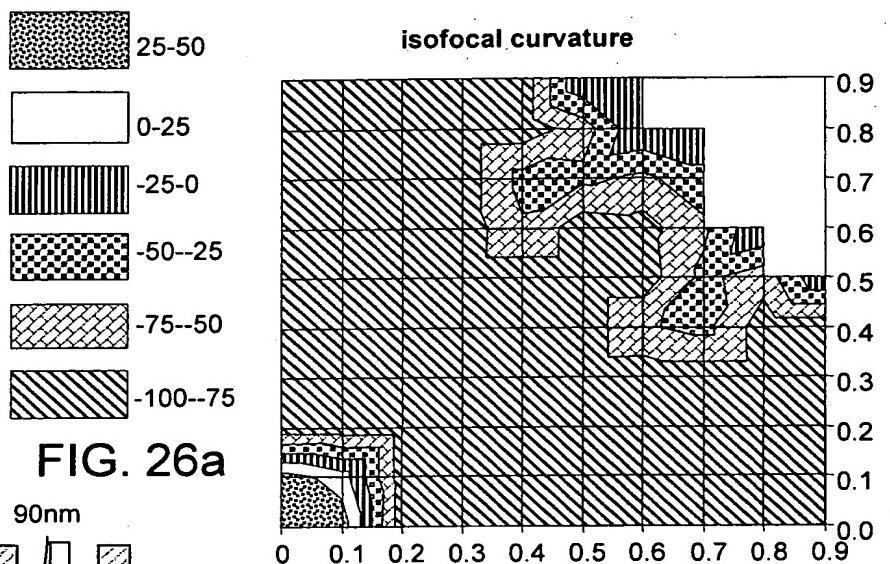


FIG. 26a

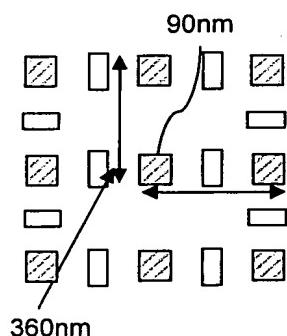


FIG. 26c

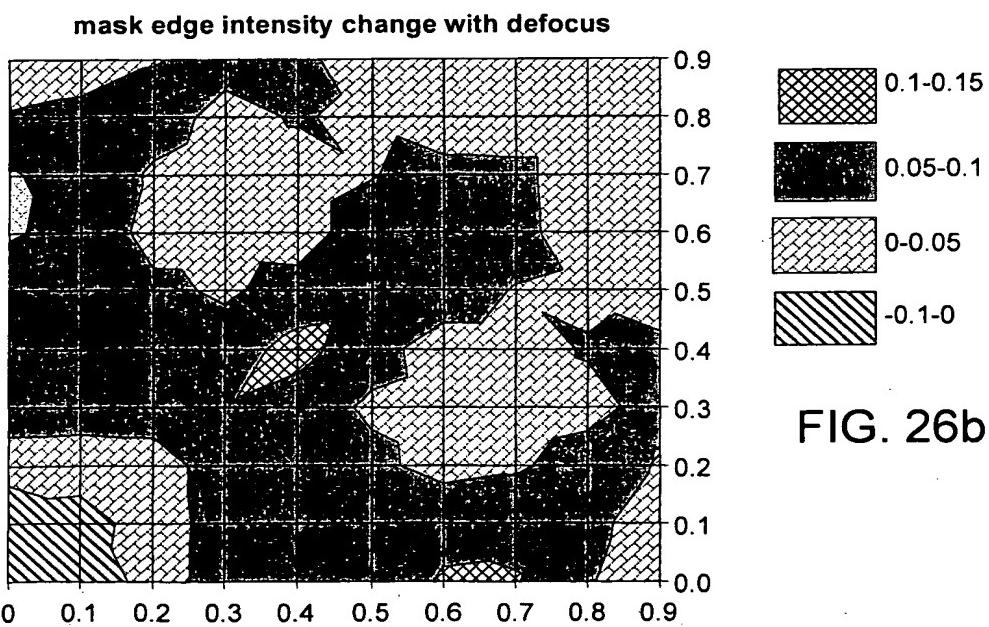


FIG. 26b

FIG. 27a

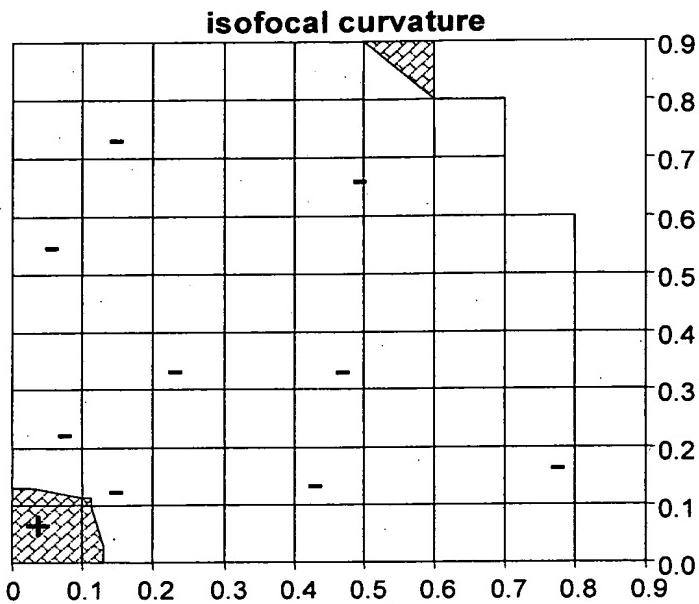


FIG. 27b

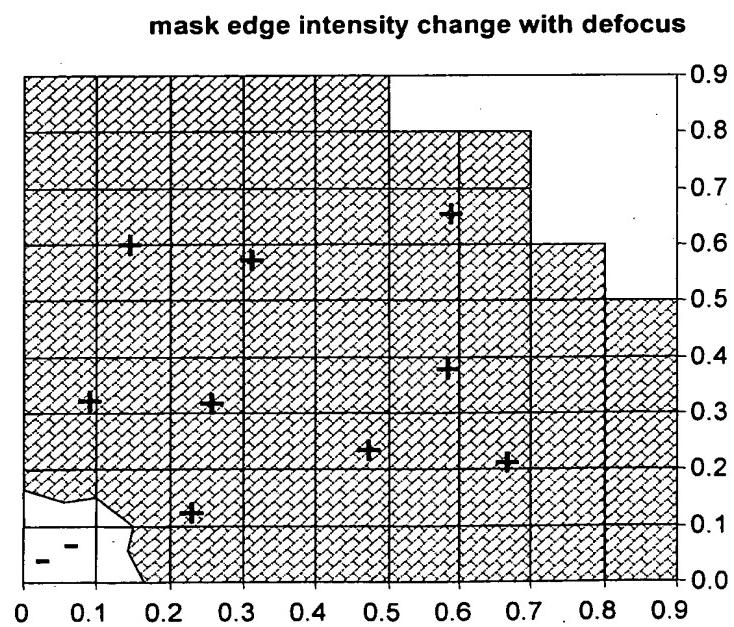
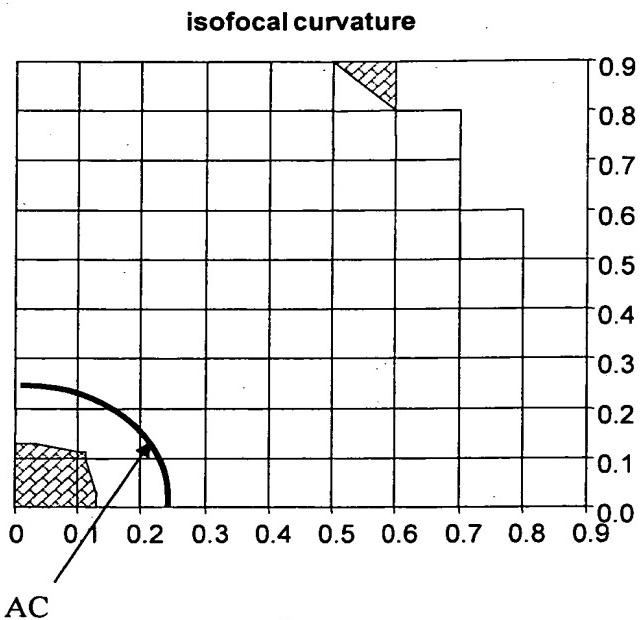


FIG. 28



Resist Feature Width, CD (nm)

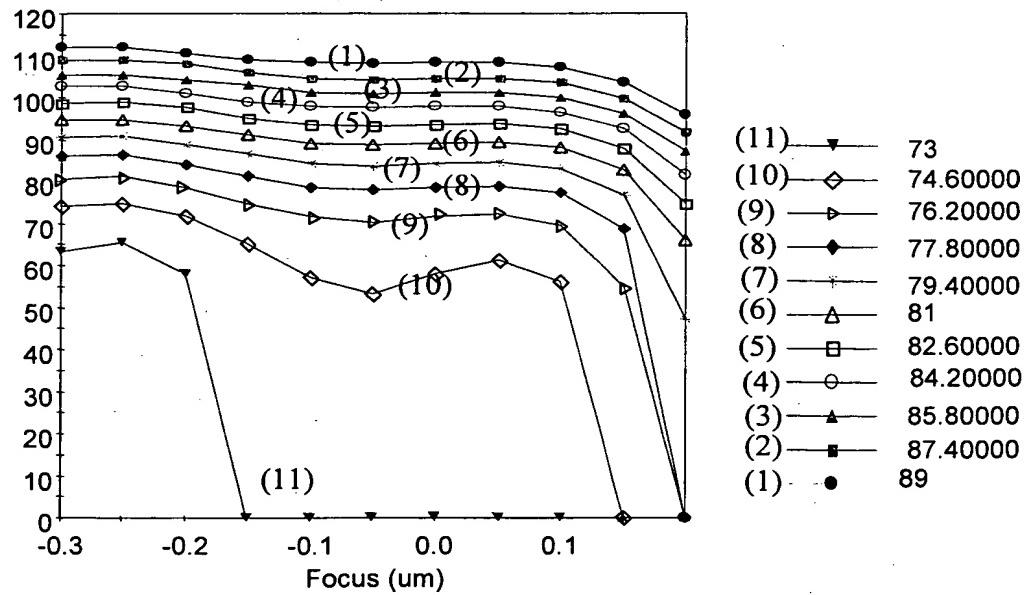


FIG. 29

FIG. 30a

max EL

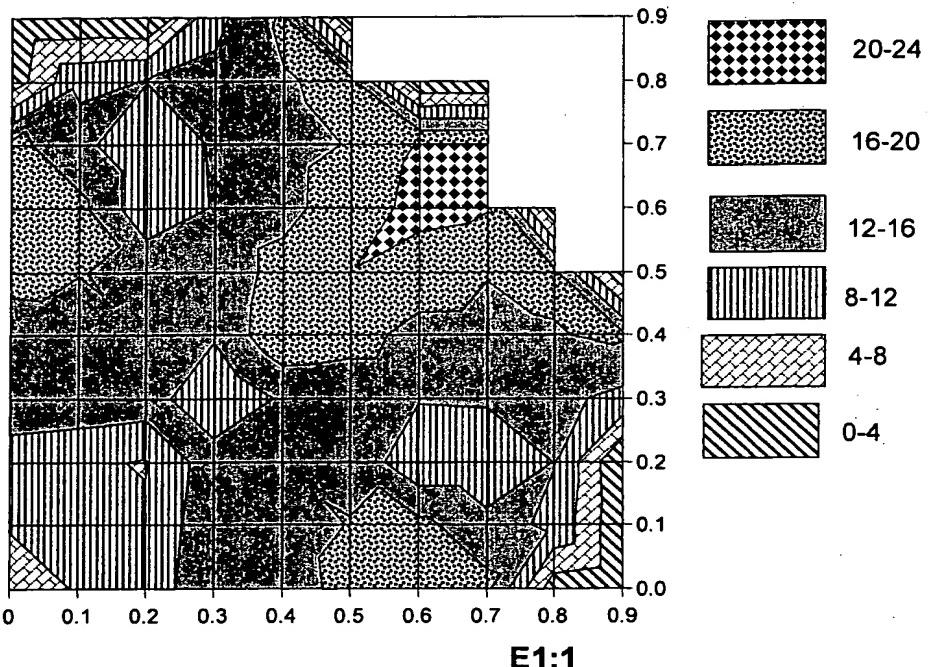


FIG. 30b

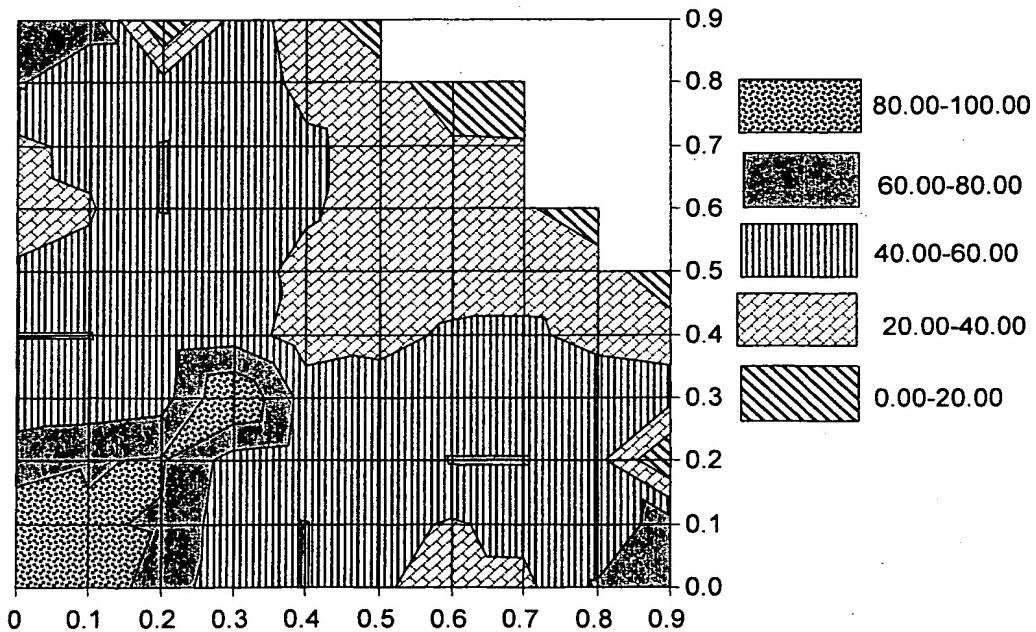


FIG. 31

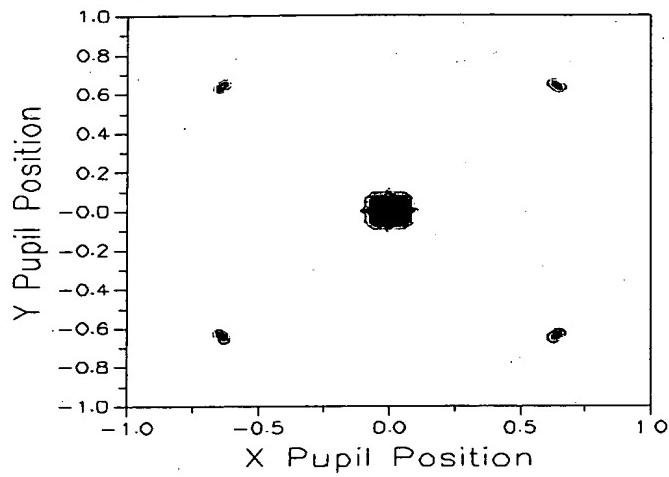


FIG. 32

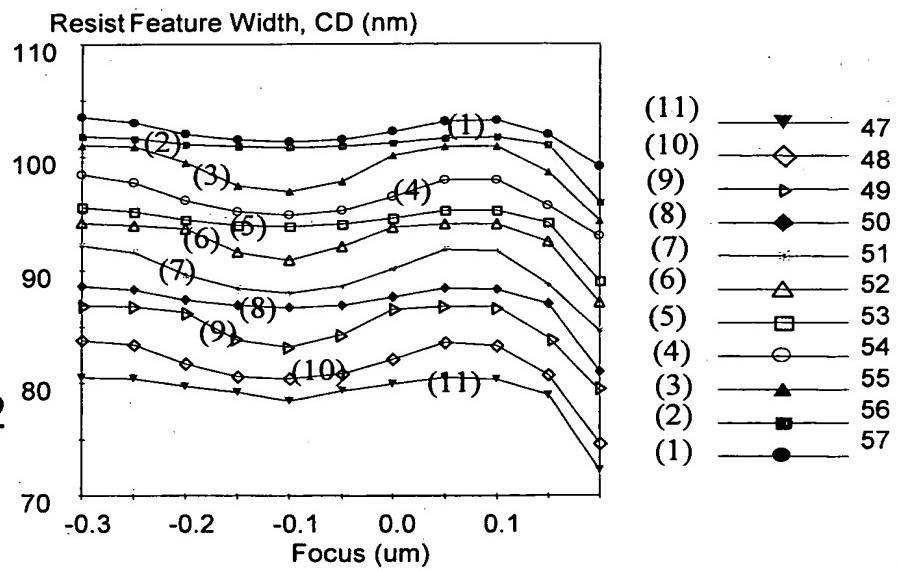
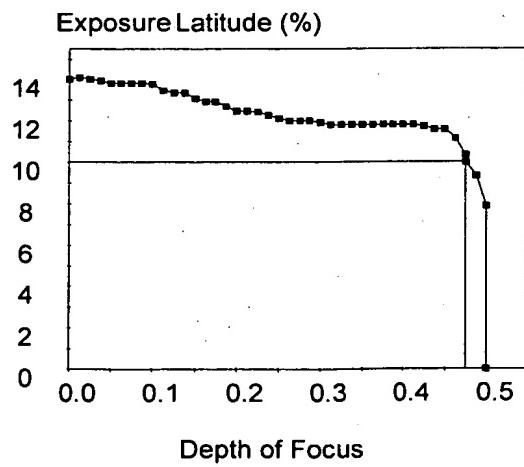


FIG. 33



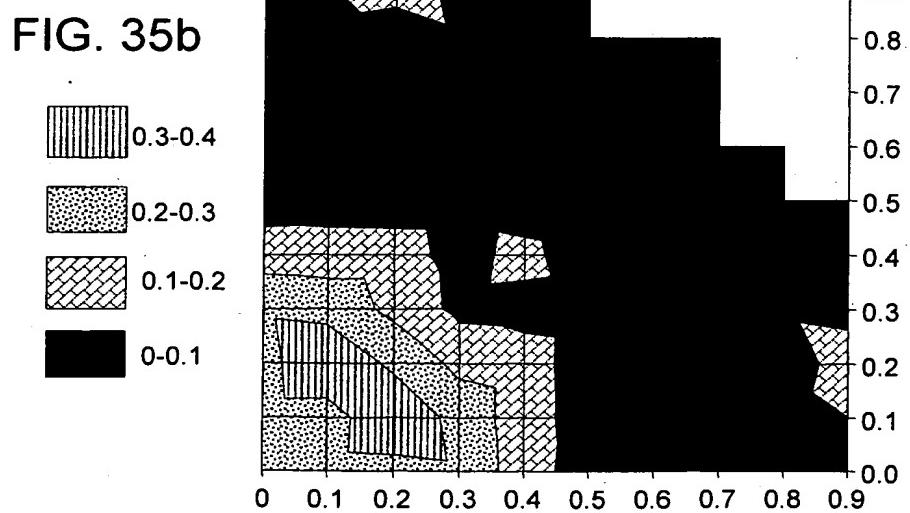
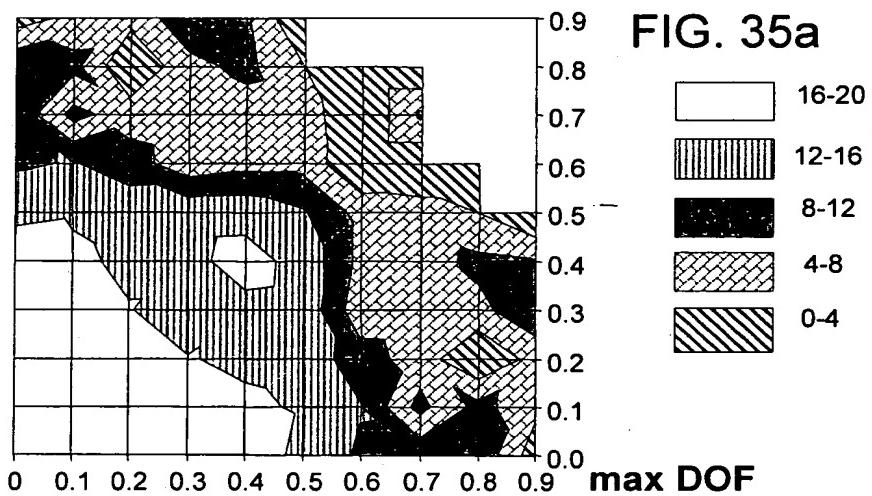
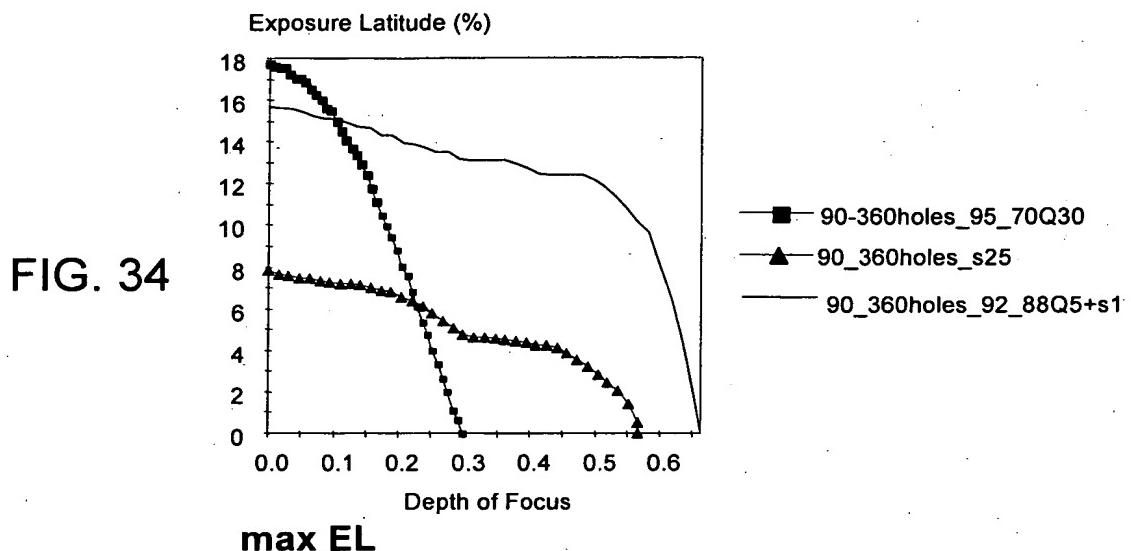


FIG. 35c **DOF@8%EL**

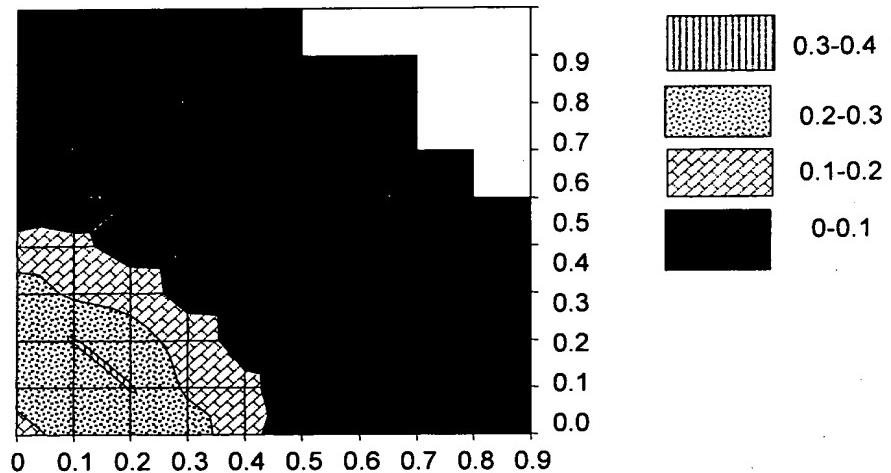
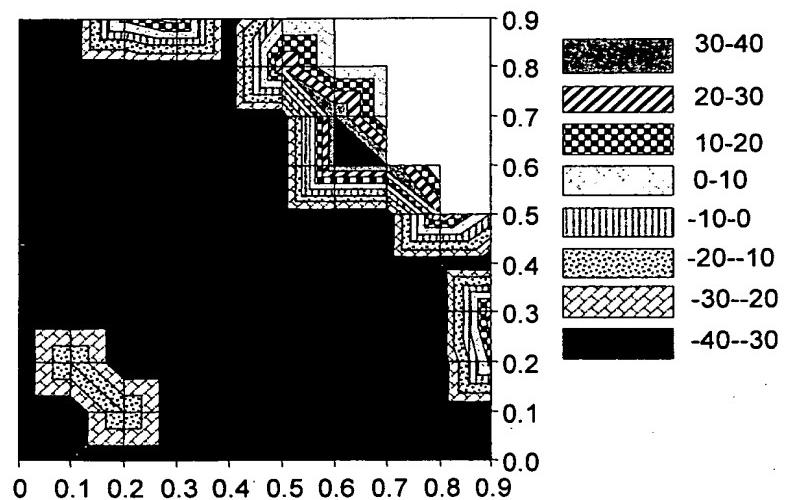
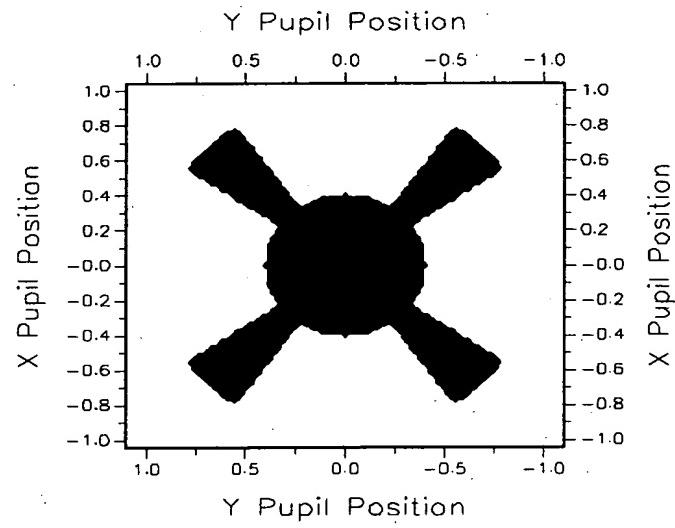
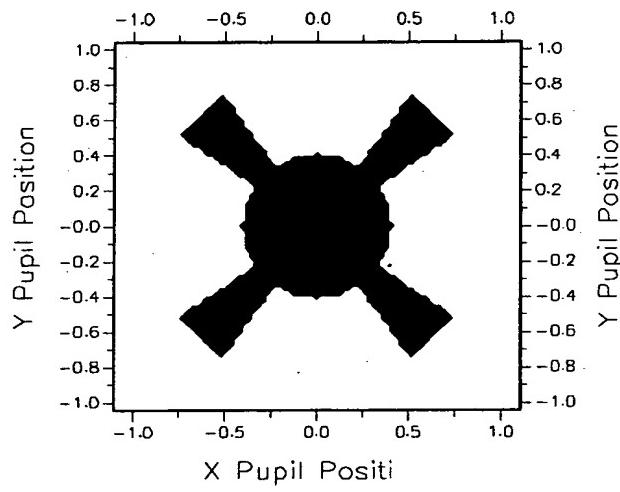
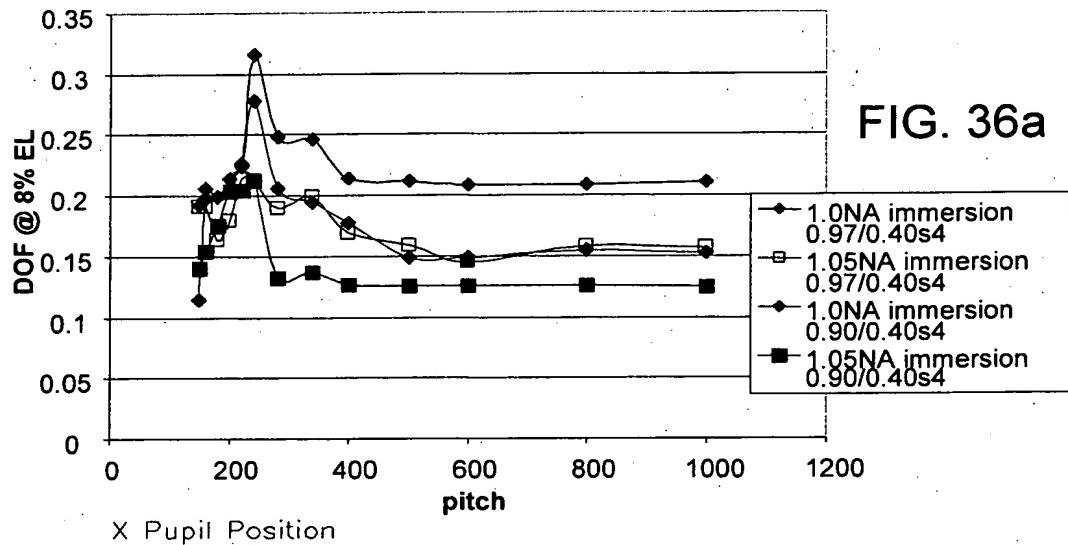


FIG. 35d **isofocal curvature**





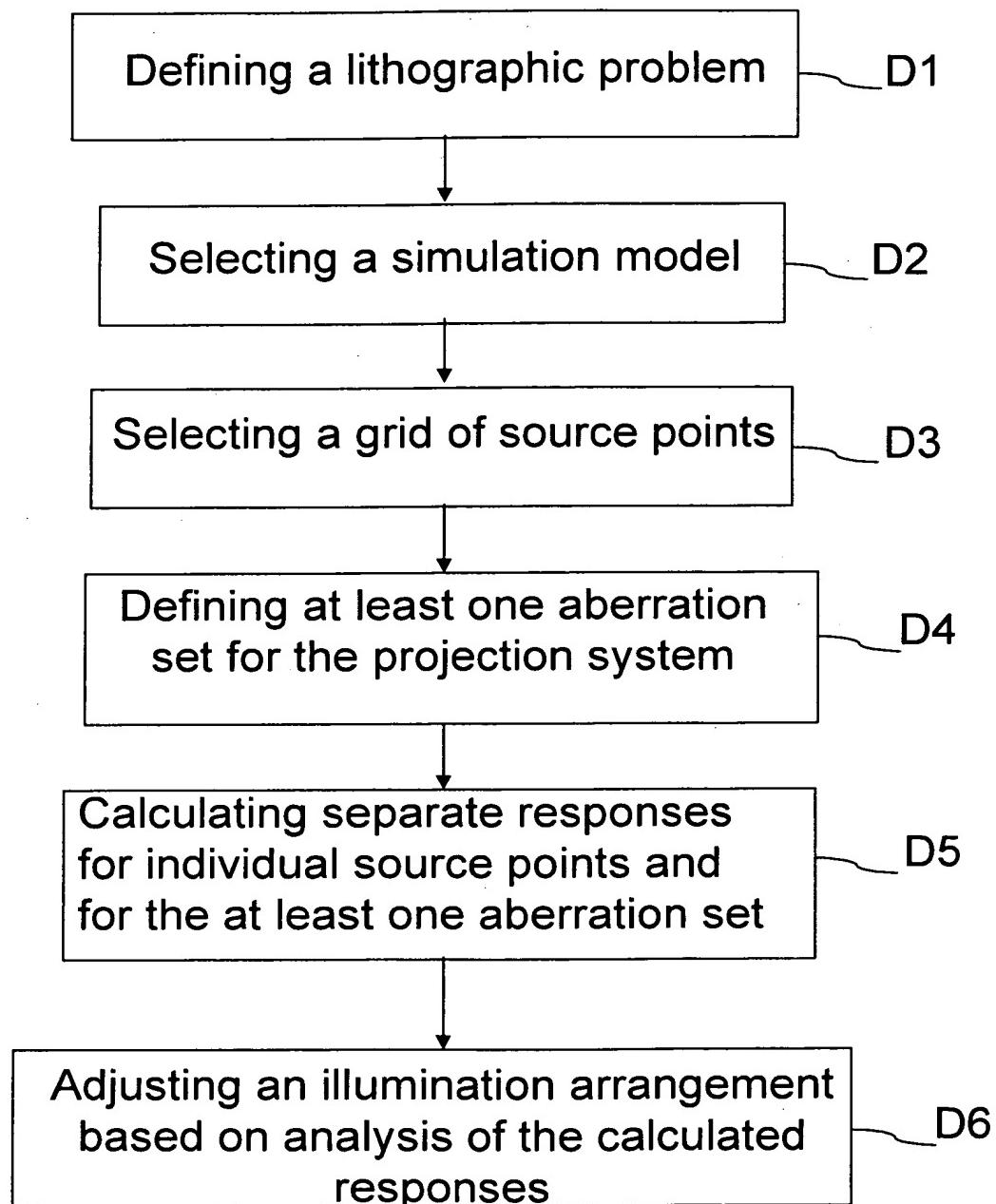


FIG. 37

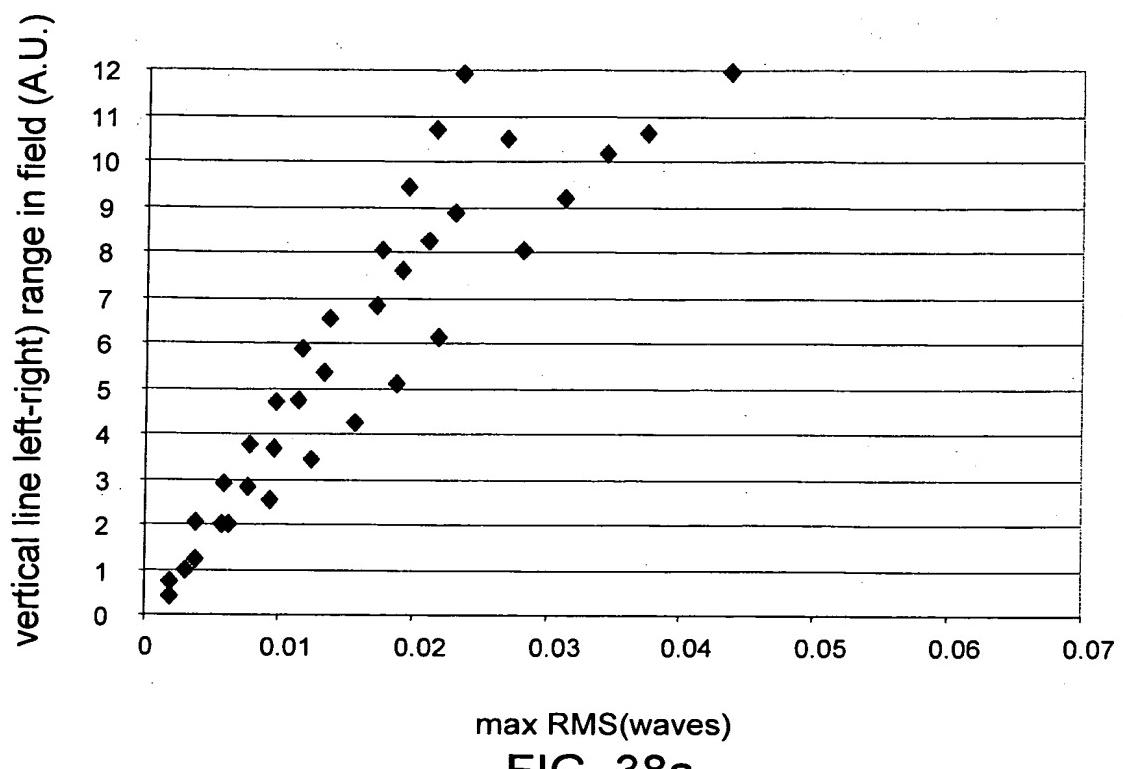


FIG. 38a

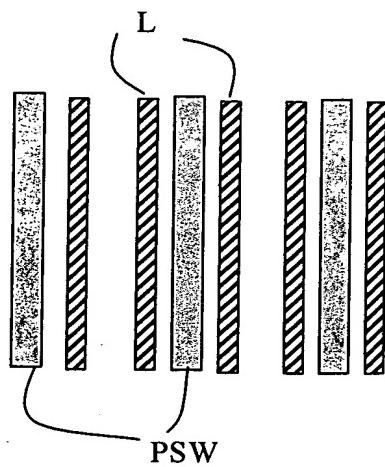


FIG. 38b

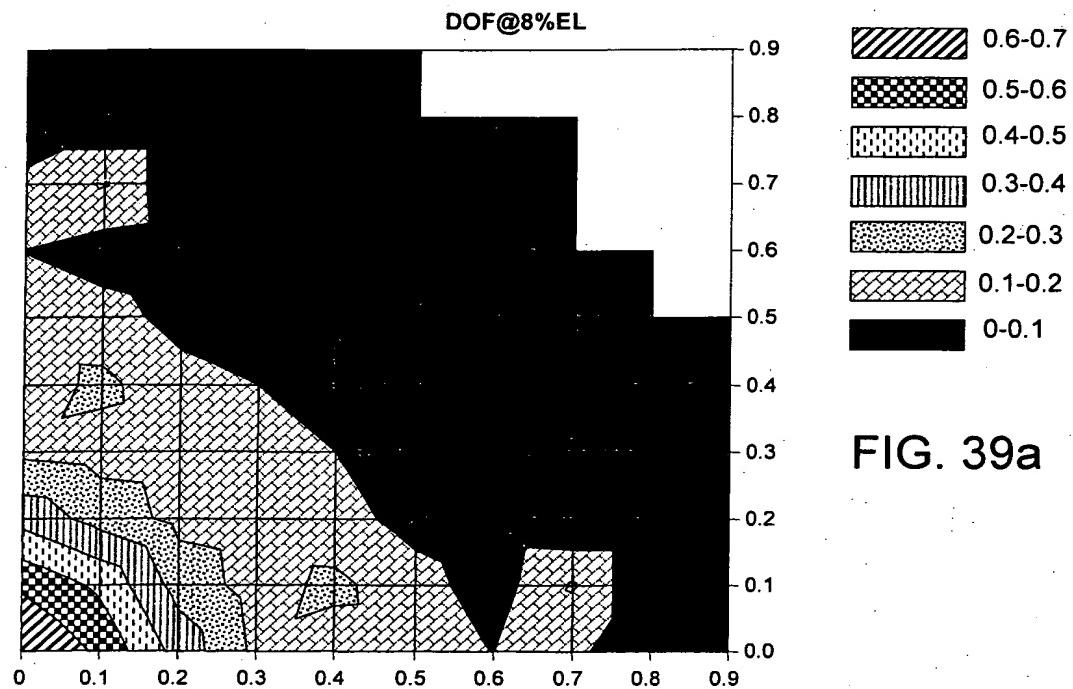


FIG. 39a

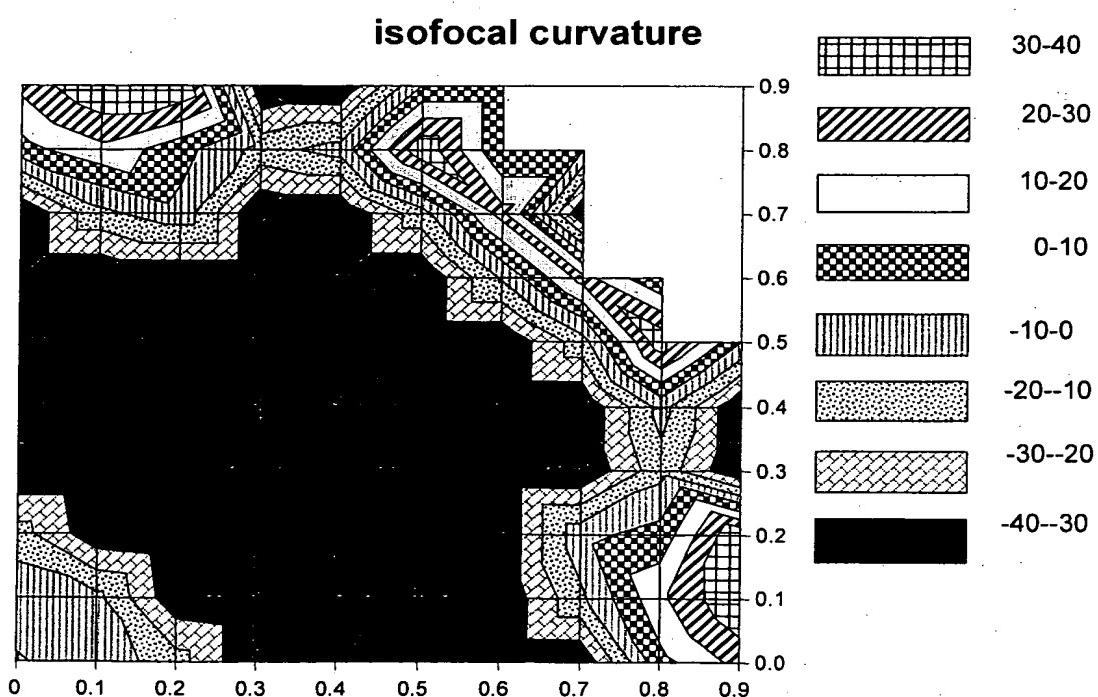


FIG. 39b

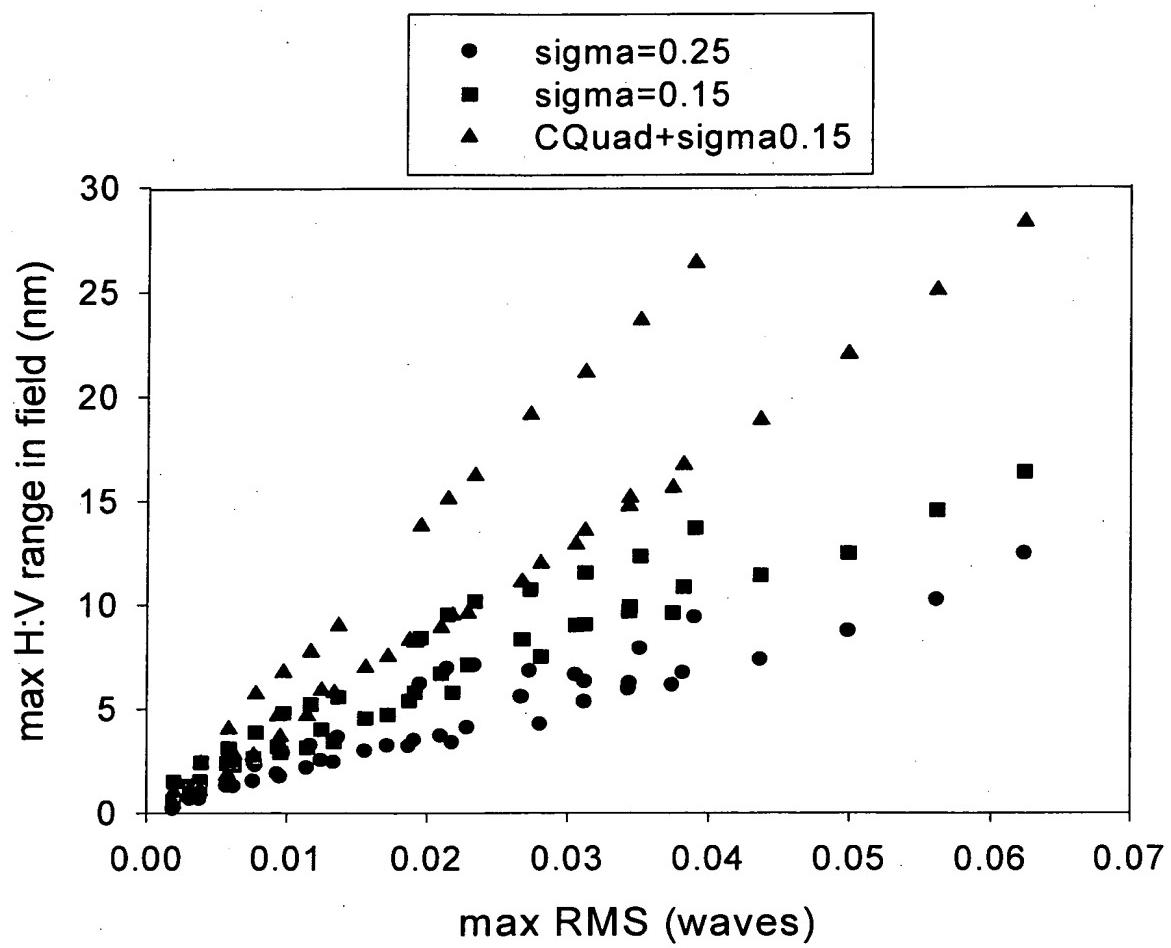
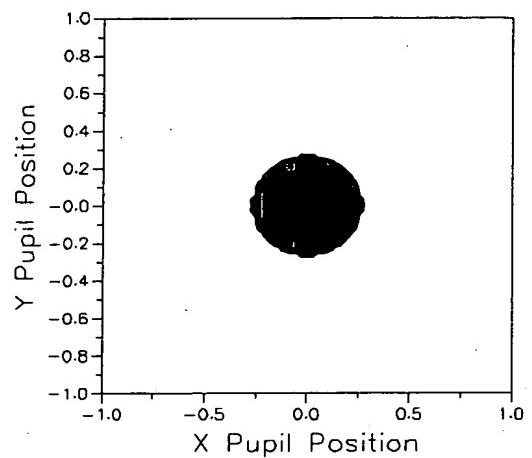
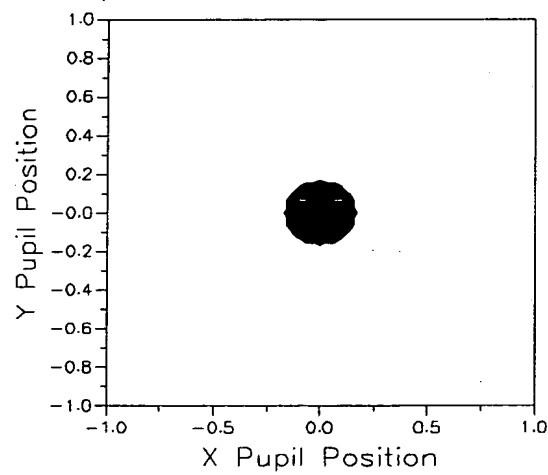


FIG. 40

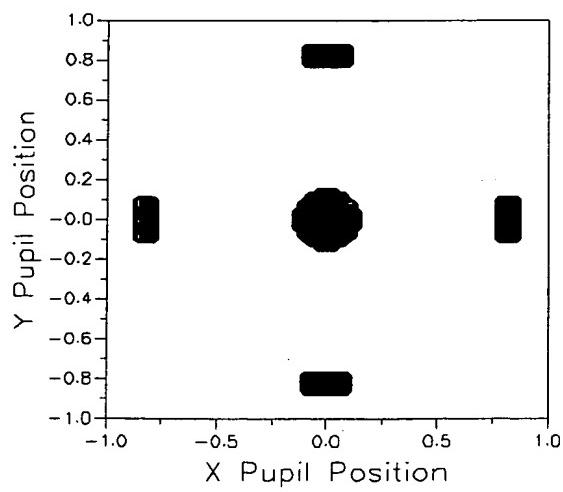


(a)



(b)

FIG. 41



(c)

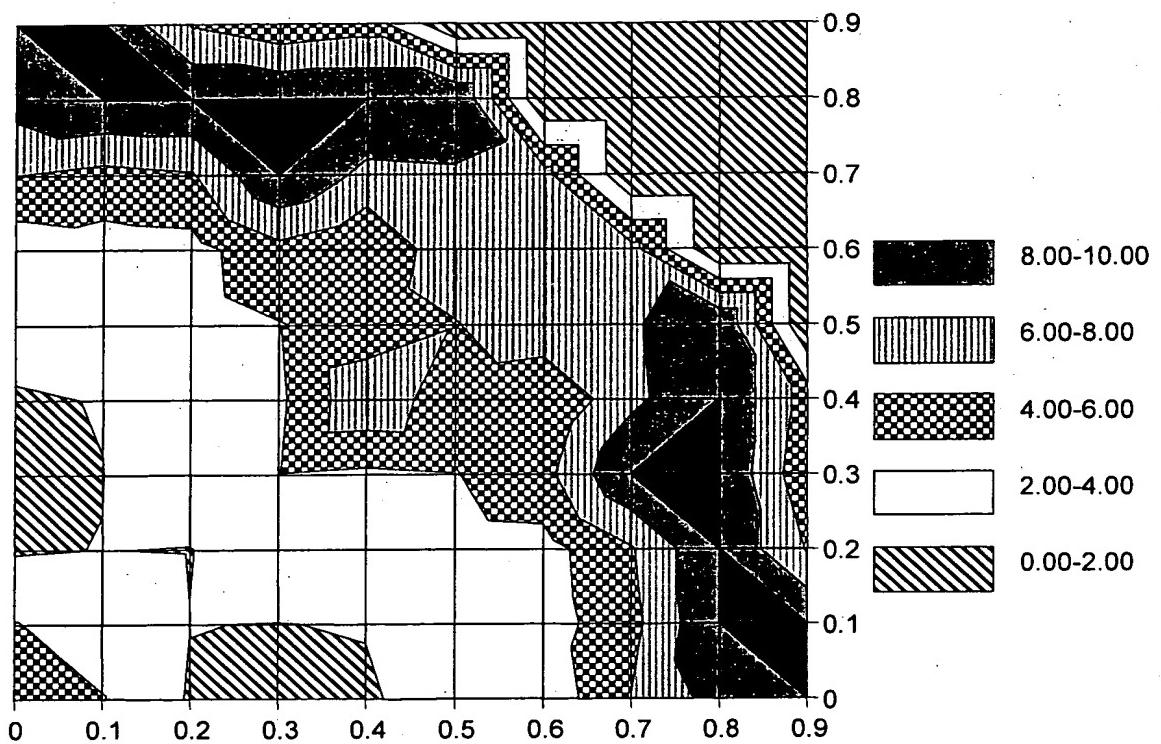


FIG. 42

DOF@8%EL

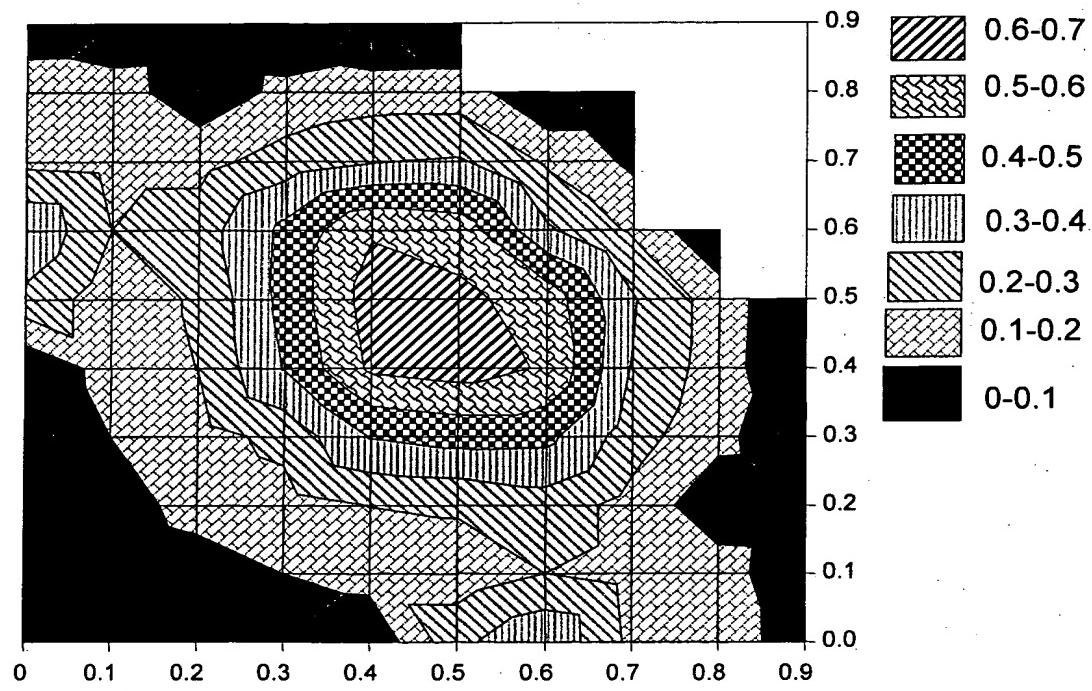


FIG. 43

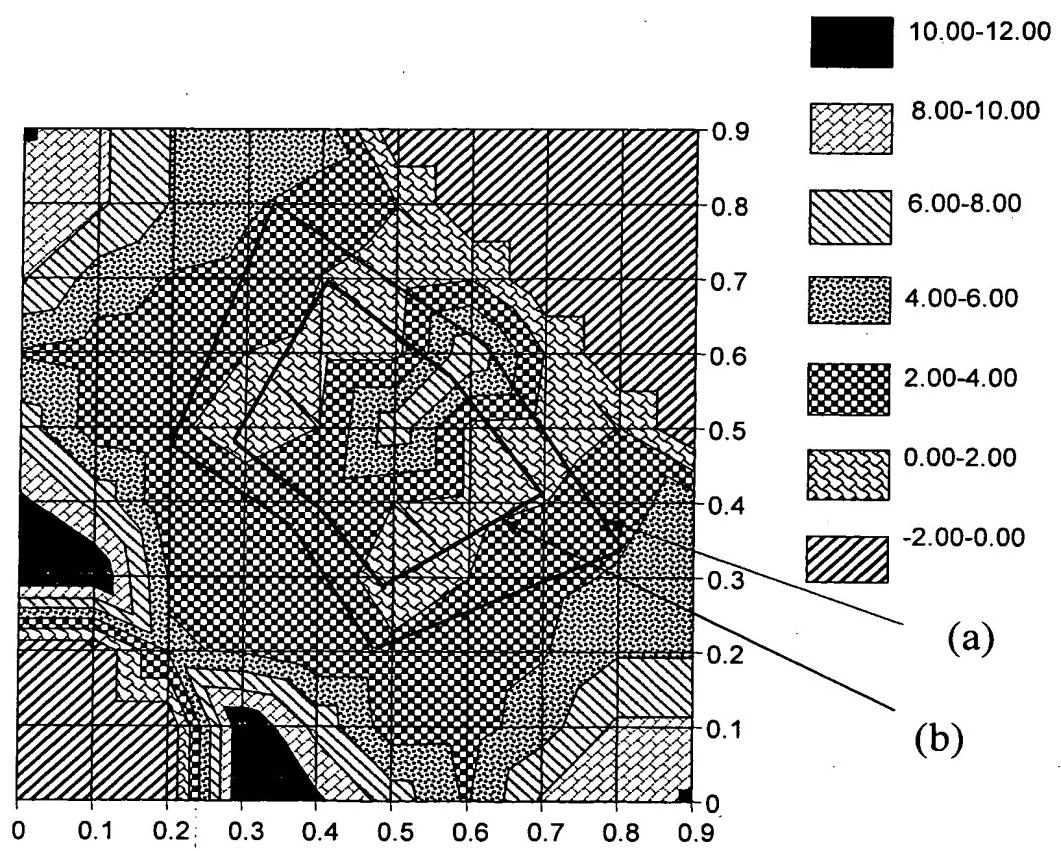


FIG. 44

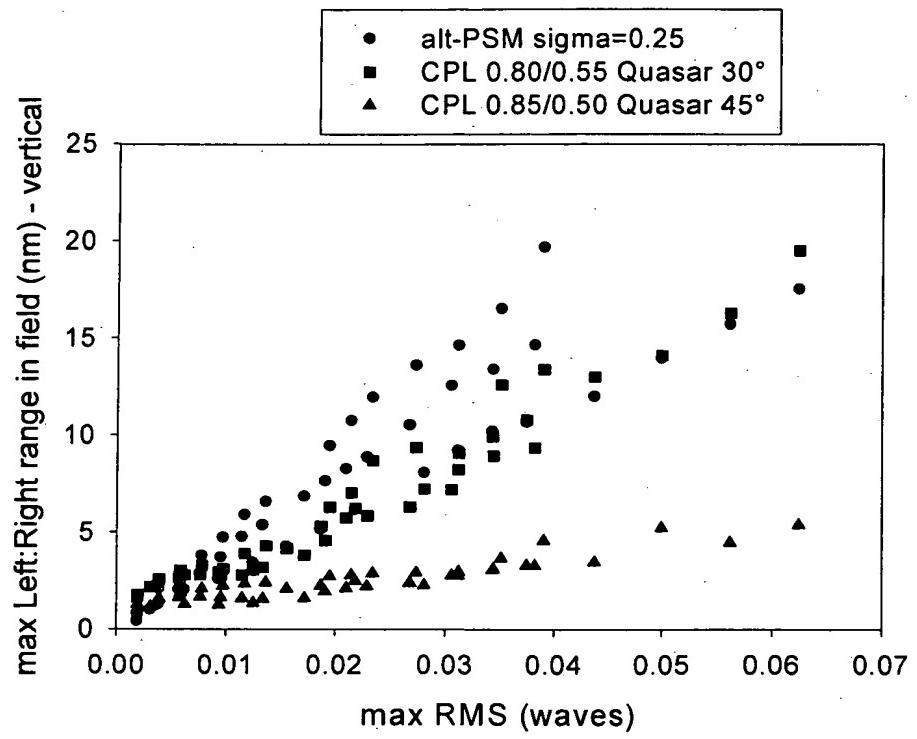
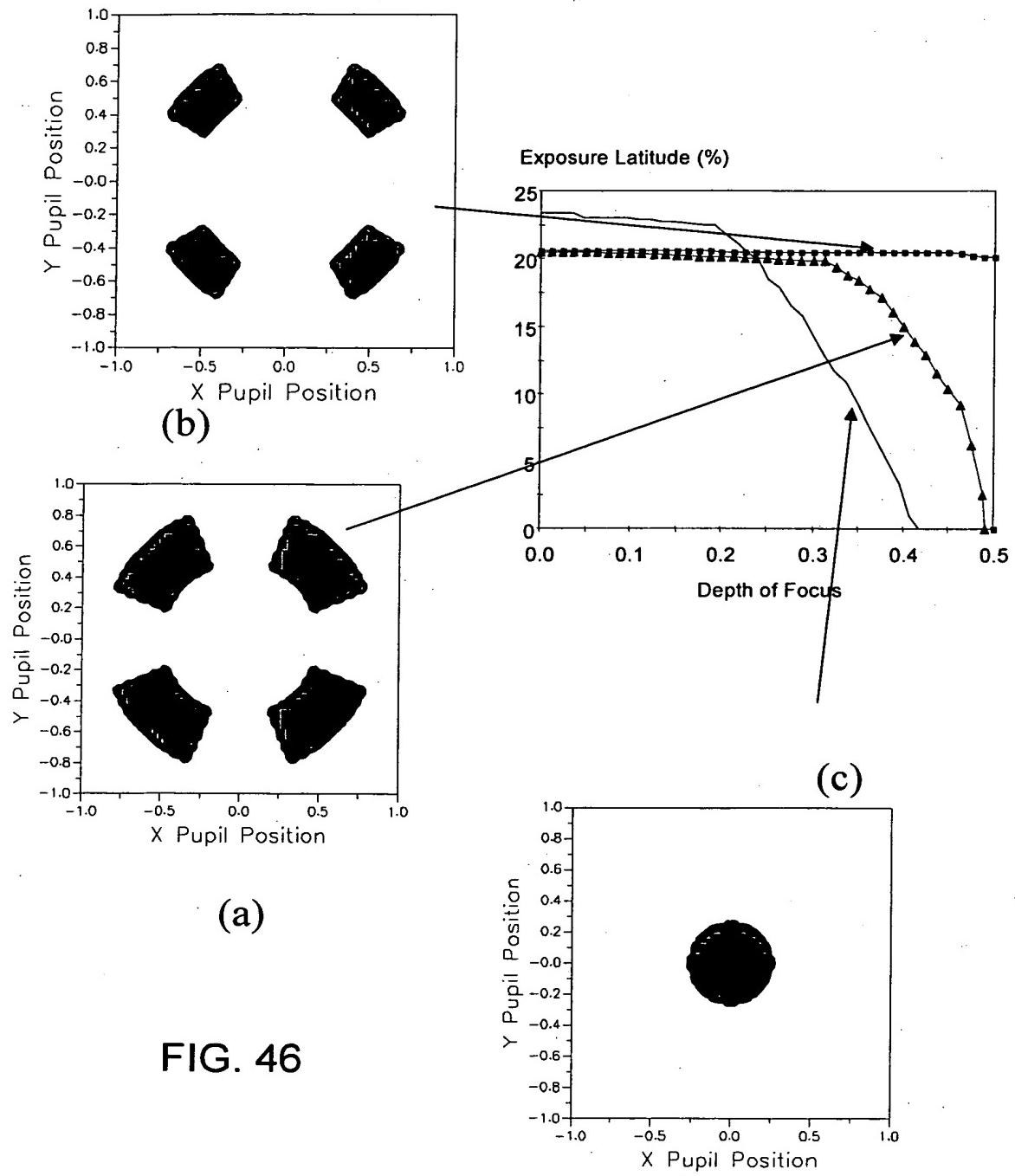


FIG. 45



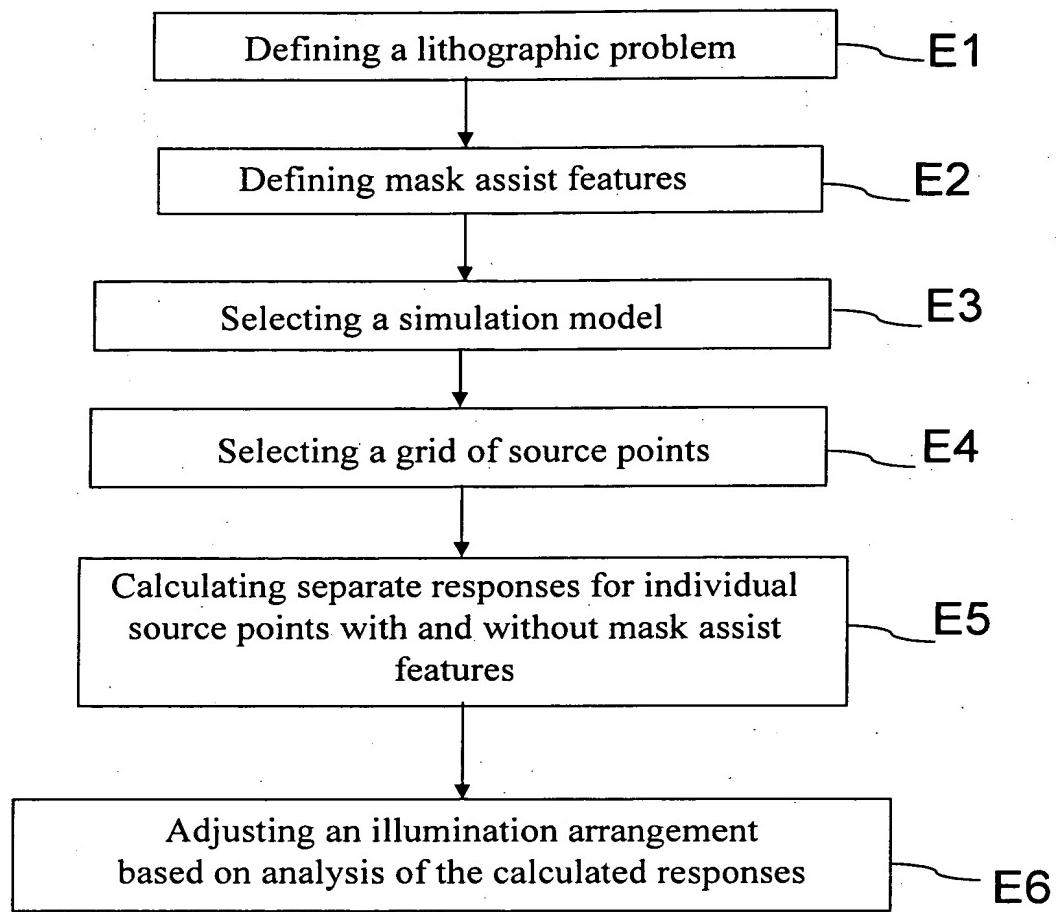


FIG. 47

FIG. 48

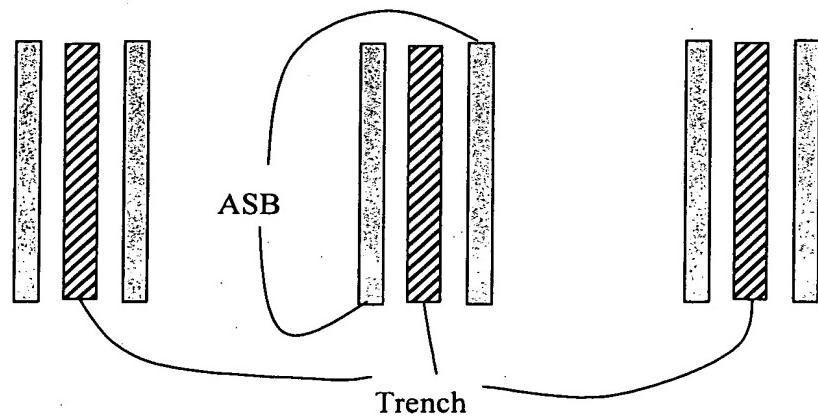


FIG. 49a

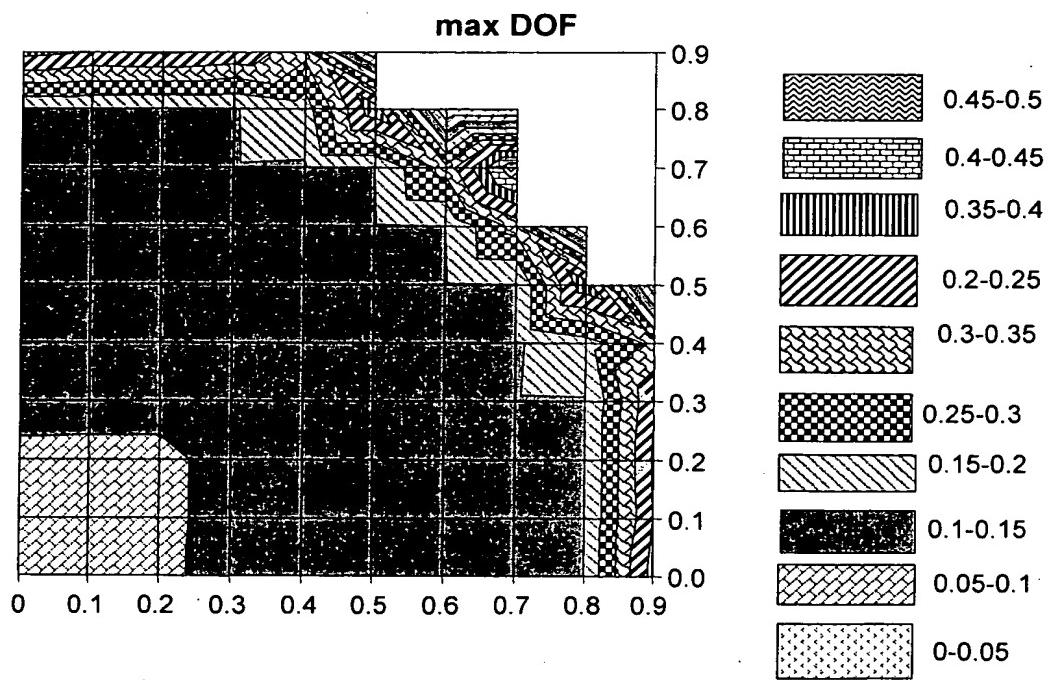
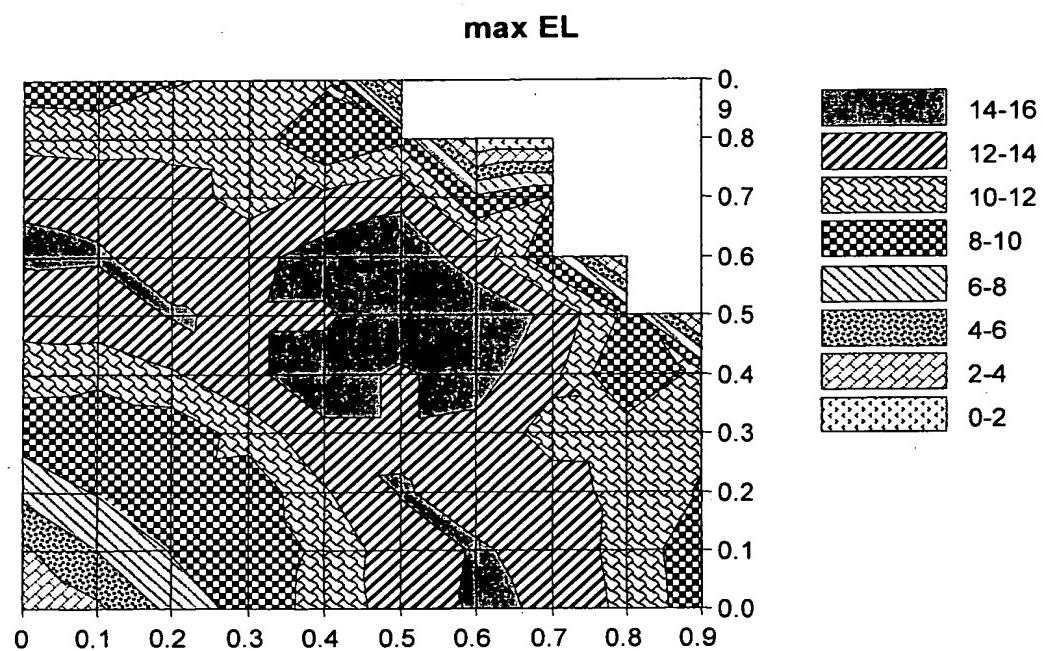


FIG. 49b



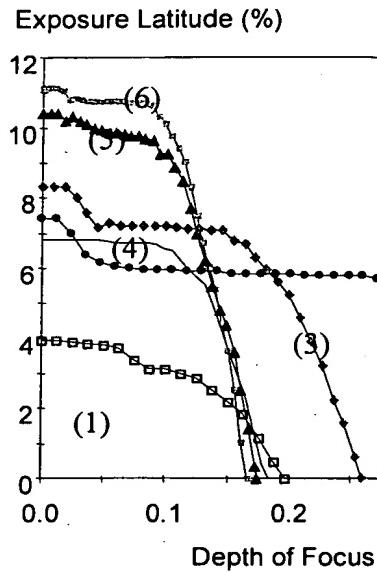


FIG. 50

Illumination
Pitch

(6) 1SB_150_90_70CQ30
(5) 1SB_160_90_70CQ30
(4) 1SB_180_90_70CQ30
(3) 1SB_150_95_85CQ22.5
(2) 1SB_160_95_85CQ22.5
(1) 1SB_180_95_85CQ22.5

FIG. 51a

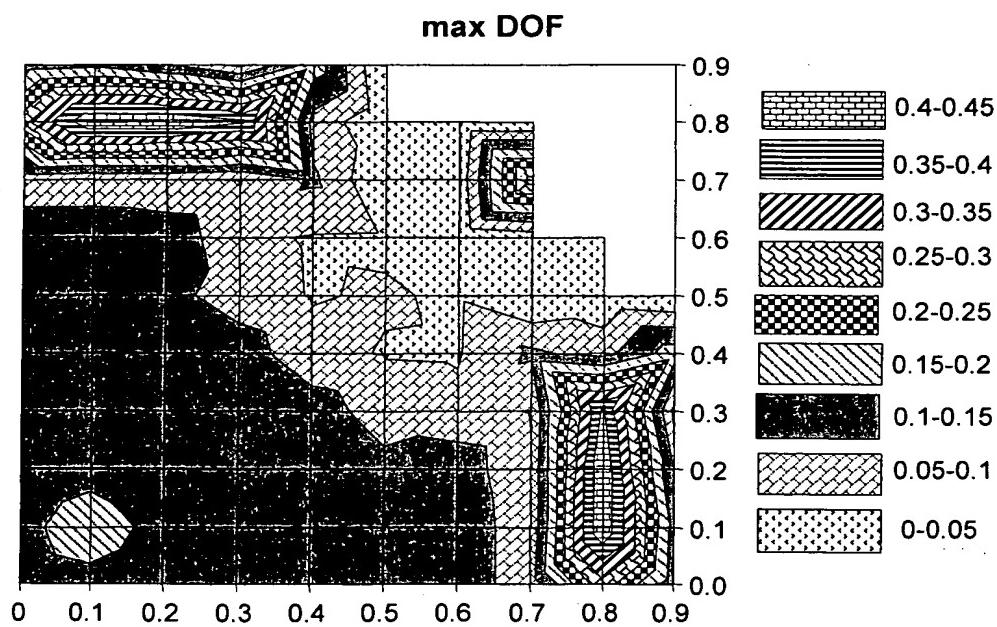
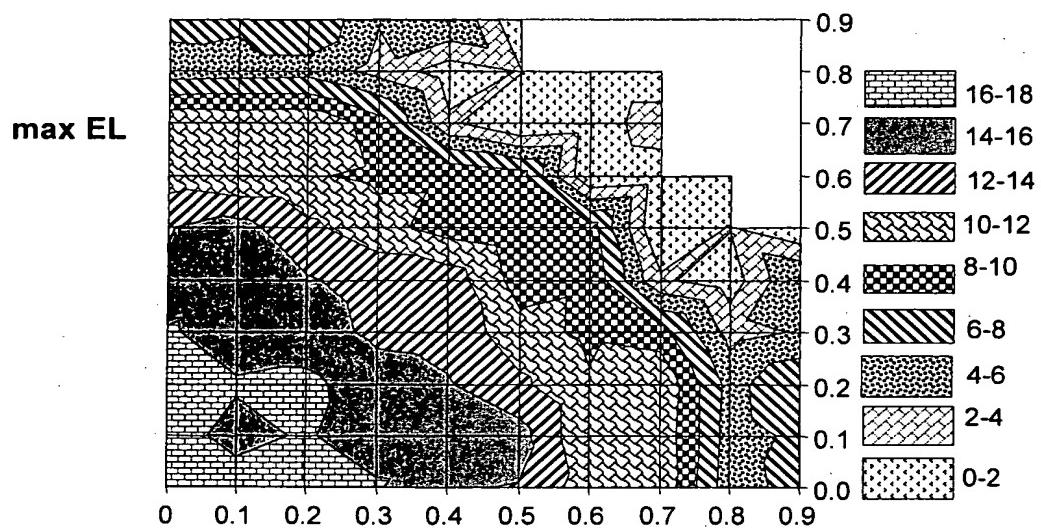


FIG. 51b



(a)

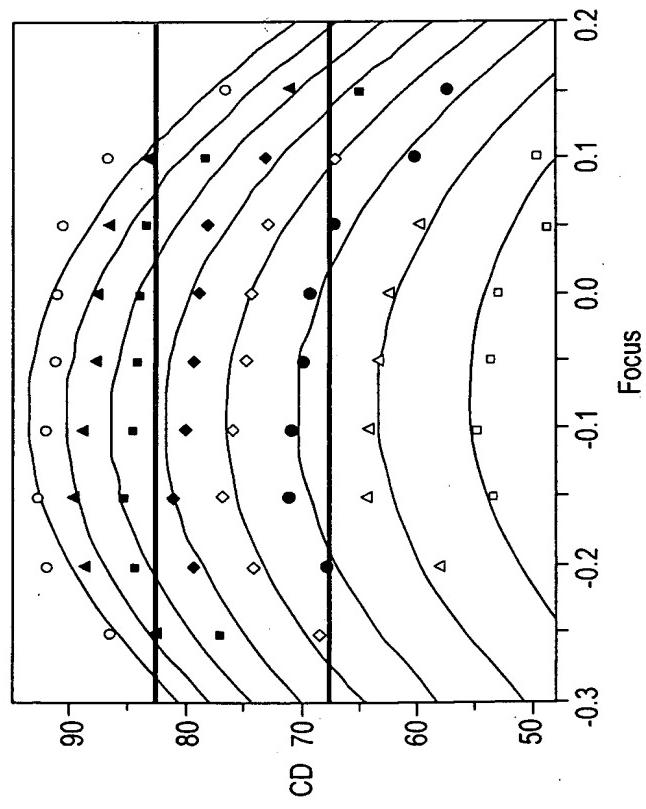
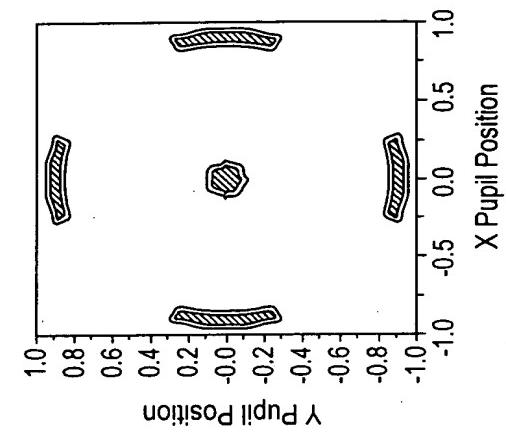
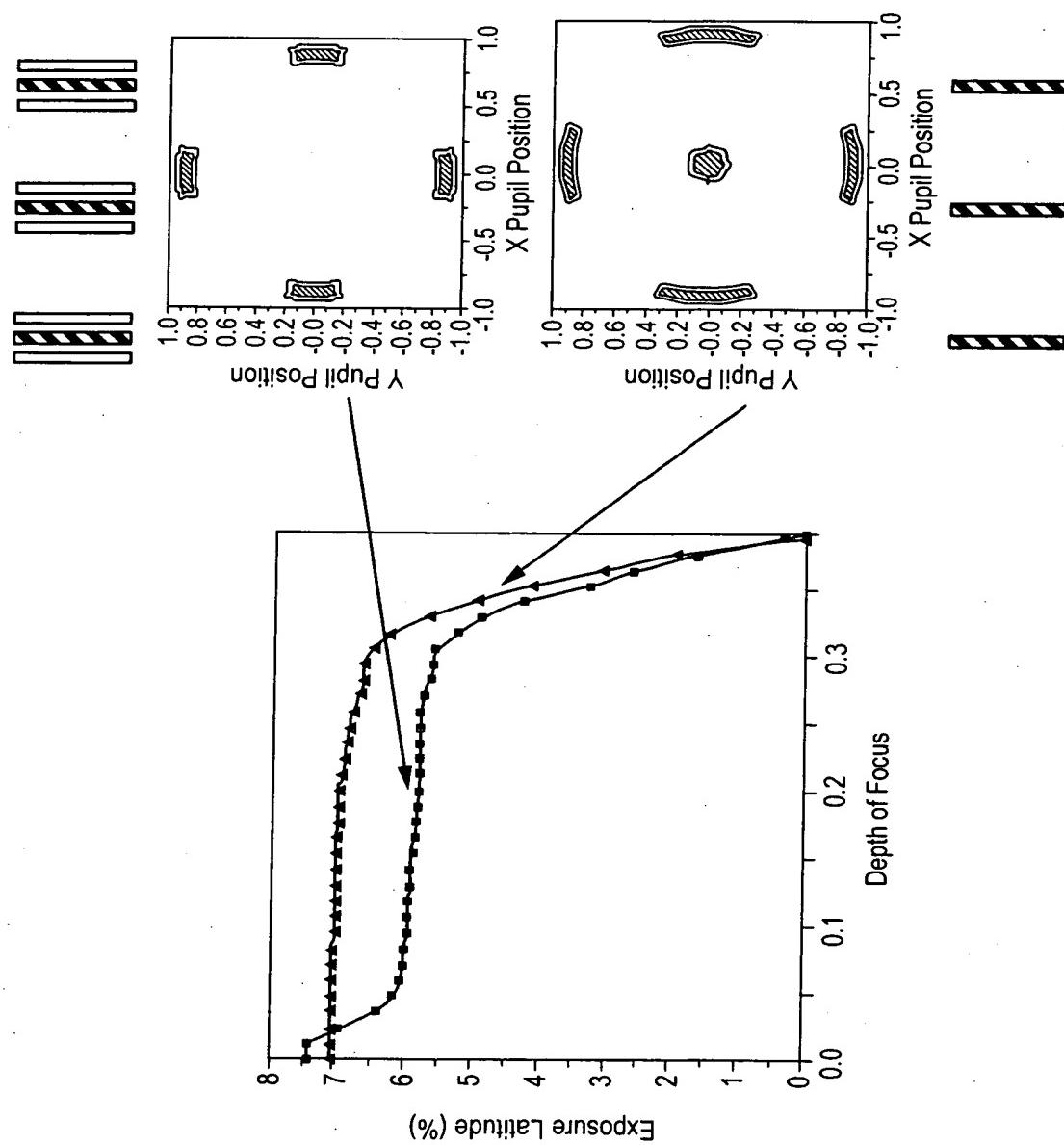


FIG. 52

FIG. 53



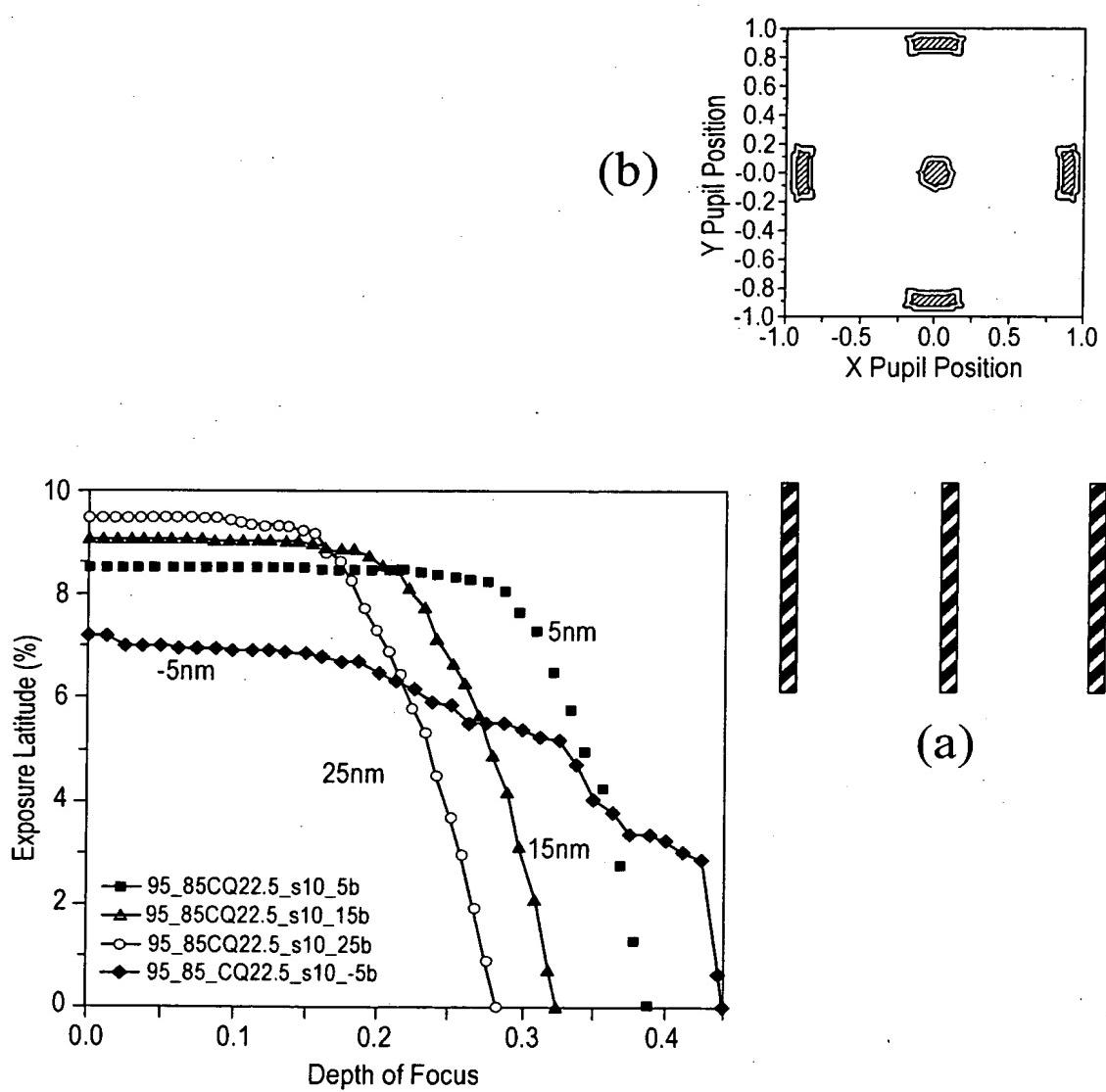


FIG. 54

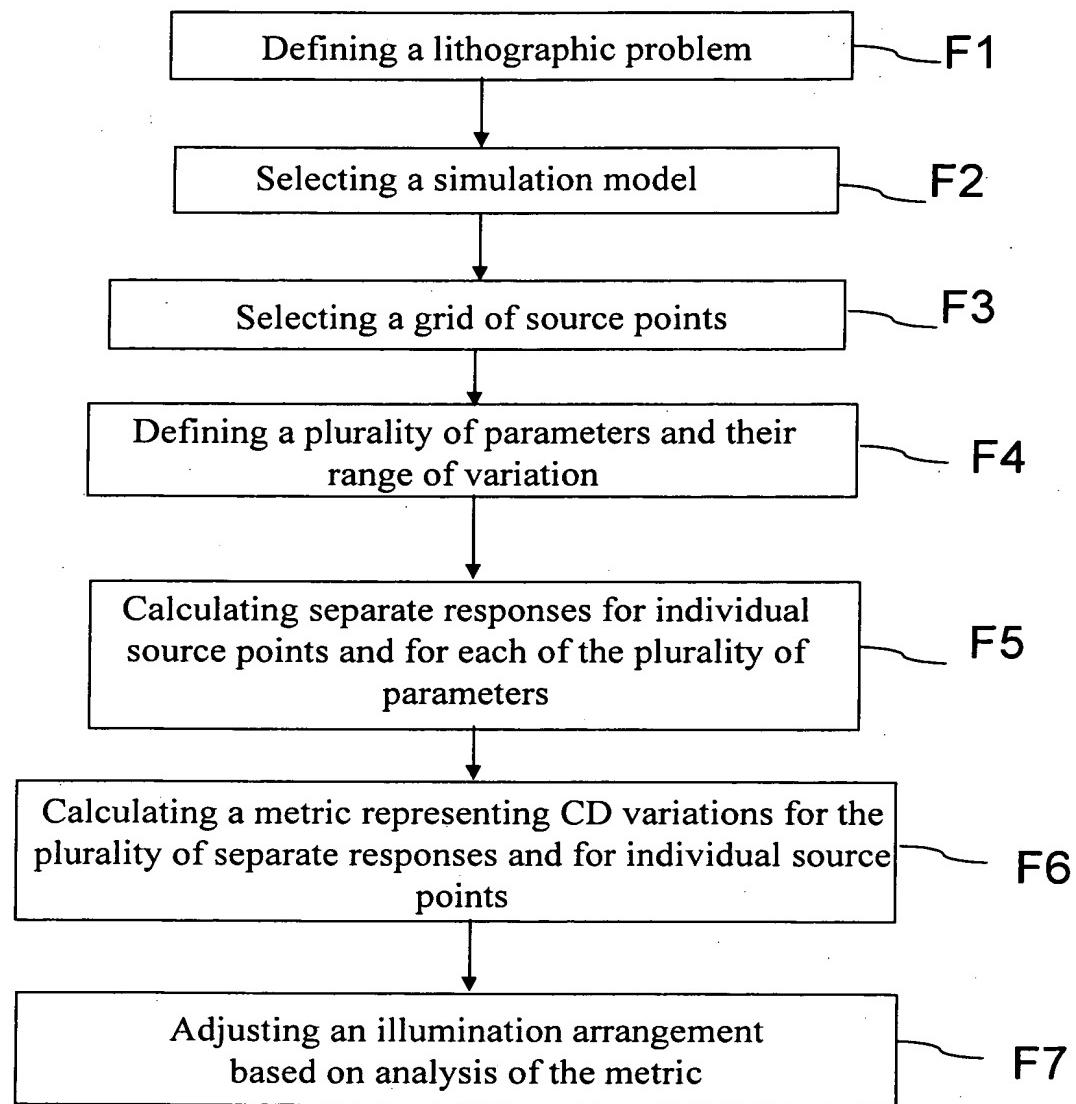
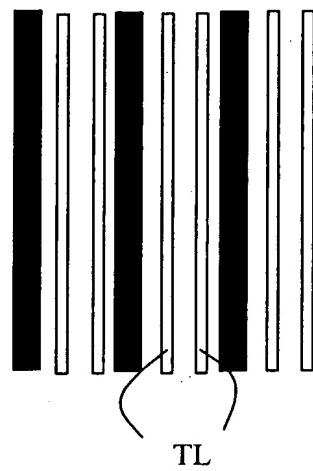


FIG. 55

FIG. 56



DOF@8%EL

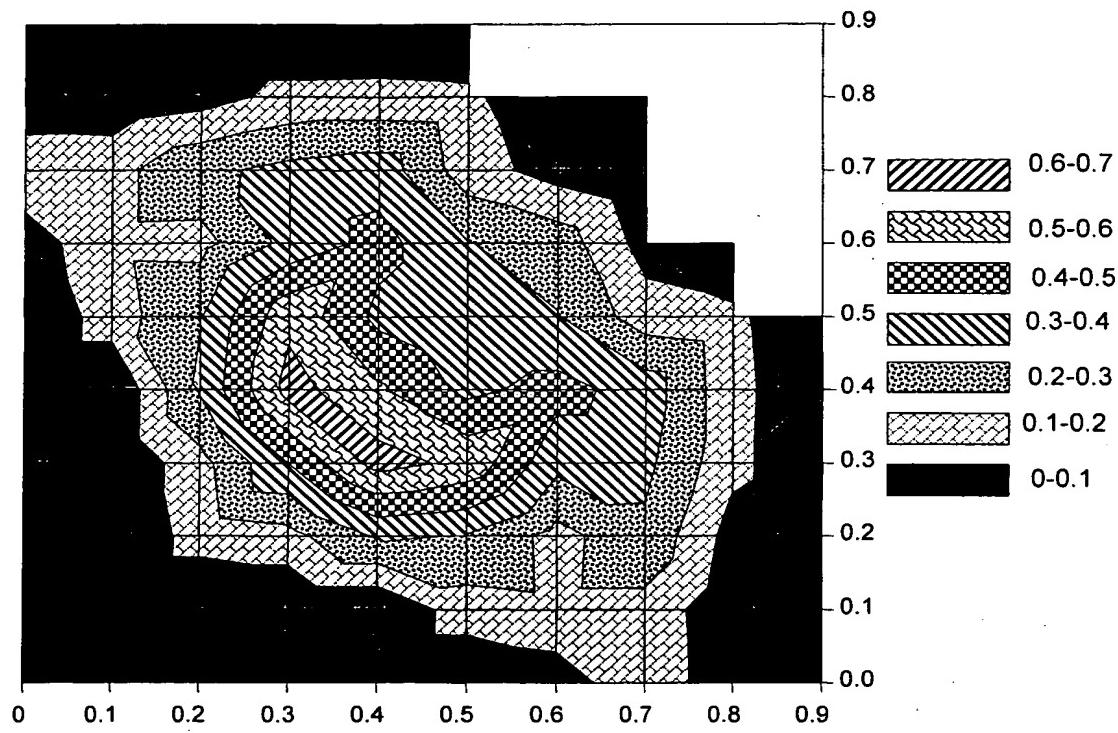


FIG. 57

total CD variation

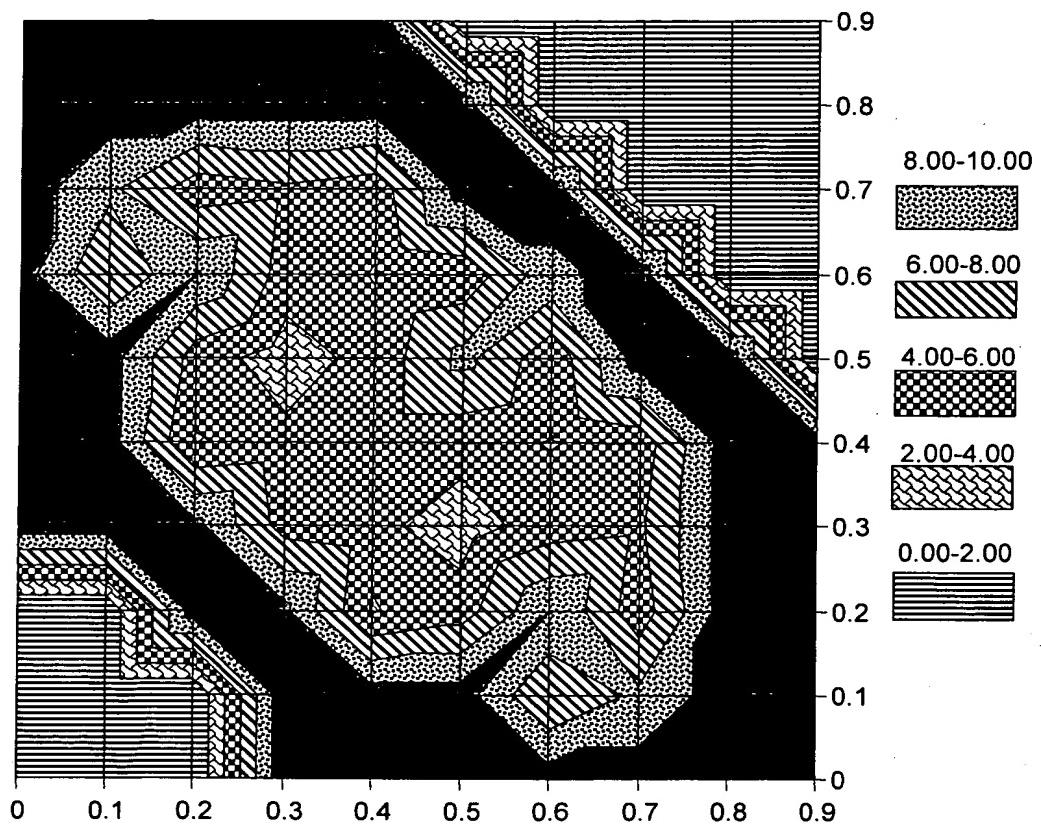


FIG. 58

